

American Artisan

Founded 1880

The Warm Air Heating and Sheet Metal Journal

Vol. 98, No. 18

CHICAGO, NOVEMBER 2, 1929

\$2.00 Per Year

WATCHING THE MARKET

—for more business—for you

The editors of American Artisan are now preparing for publication—

AMERICAN ARTISAN

36th WARM AIR FURNACE ANNUAL

Articles covering the following subjects will be included in this big annual number:

A Review of the Past Year—Newest Developments in Unit Design and Installation—Trend of Public Favor—Field Survey Giving Dealer Opinions and Experiences—Coal, Gas, Oil and Forced Air Heating—Forecast of Business for 1930—Special Articles on Merchandising and Installation—Research Developments.

SHEET METAL CONTRACTING

New Markets—New Metals—New Products—Merchandising Sheet Metal Work—Unusual Installations—Special Articles Dealing With Mechanical and Metallurgical Problems—Market Outlook—Business Forecast.

A special annual issue that will help you know your market—that will help you sell to it in 1930

WATCH FOR FURTHER ANNOUNCEMENTS

Manufacturers and Jobbers—RESERVE YOUR ADVERTISING SPACE NOW

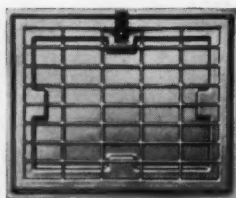


▲ ▲ ▲ ▲ ▲ How much selling can you do with the register you handle? ▲ ▲ ▲ ▲ ▲

A FURNACE has this talking point, and that... efficiency, economy, cleanness. And your installation will be so and so . . . Much better than the usual job—if you can make the customer believe it.

And what of the *registers*? Can you claim some superiority for the particular type that you will install...or will they be just "registers"?

Registers are as important as any other part of your furnace job...And *good* registers offer their full share of effective selling arguments.



When you stop to think of it, registers are the very bottle's neck of a heating plant. The furnace and piping cannot be efficient if the registers offer resistance to the passage of the rising warm air. Nor can a good furnace continue to give clean heat if the floor registers trap dust and let it fall into the warm air ducts. You won't have to gloss over these facts if you use LAMNECK Improved registers on every job. LAMNECKS will not "bottle up" heat in the ducts...they will not form dust traps in the floor. They are more efficient, cleaner, better looking and they make your job easier to sell. In spite of their greater value they don't cost you a cent more.

LAMNECK IMPROVED REGISTERS

If you are not already convinced that LAMNECKS are the cleanest, most efficient and best looking registers on the market, we want to send you a sample floor register. It will prove conclusively the superiority of LAMNECK registers. Use this coupon.

THE W. E. LAMNECK COMPANY
416-436 Dublin Ave., Columbus, Ohio

Gentlemen: I would like to see for myself why Lamneck registers are cleaner and more efficient. Please send me, without obligation, a sample floor register.

Name _____

Address _____

City _____

State _____

MIDLAND'S "CLEANER HEAT SERIES" and WHAT IT MEANS TO YOU

MORE SALES. "Cleaner Heat" breaks down sales resistance and makes selling easier. The Midland line, consisting of TRUESTEEL, EL CAPITAN and BENJAMIN FRANKLIN, gives a dealer unlimited scope and an opportunity to figure on every job. Midland's knowledge of the dealer's problem and cooperative methods make selling more certain. That is why the Midland Line means more sales to you.



AMERICA'S MOST
BEAUTIFUL STEEL FURNACE

A BETTER YEARLY PROFIT. In many cases a furnace installer will close the year and find that he has made little or no profit. As a Midland dealer selling the "Cleaner Heat" series you must make a profit and a good one for the Midland organization has a solution to the dealer's problem and has methods of cooperative merchandising which insure a profit on your sales. You cannot sell a line more complete, a line which sells easier, builds more customer satisfaction and gives you a yearly profit than the Midland "Cleaner Heat" series. Write and let us tell you all about the Midland franchise.

**THE MIDLAND FURNACE CO.
COLUMBUS, OHIO**

CUSTOMER SATISFACTION.

The Midland "Cleaner Heat" series will build customer satisfaction for you, for the products of Midland give many features that customers appreciate and want. Easy operation, low fuel consumption and long life are three of these desired features, although there are many more. That is why we say the "Cleaner Heat" series will build customer satisfaction for you.



TRUESTEEL
AMERICA'S
FINEST
STEEL FURNACE



AMERICA'S
LOWEST
PRICED
QUALITY
STEEL
FURNACE



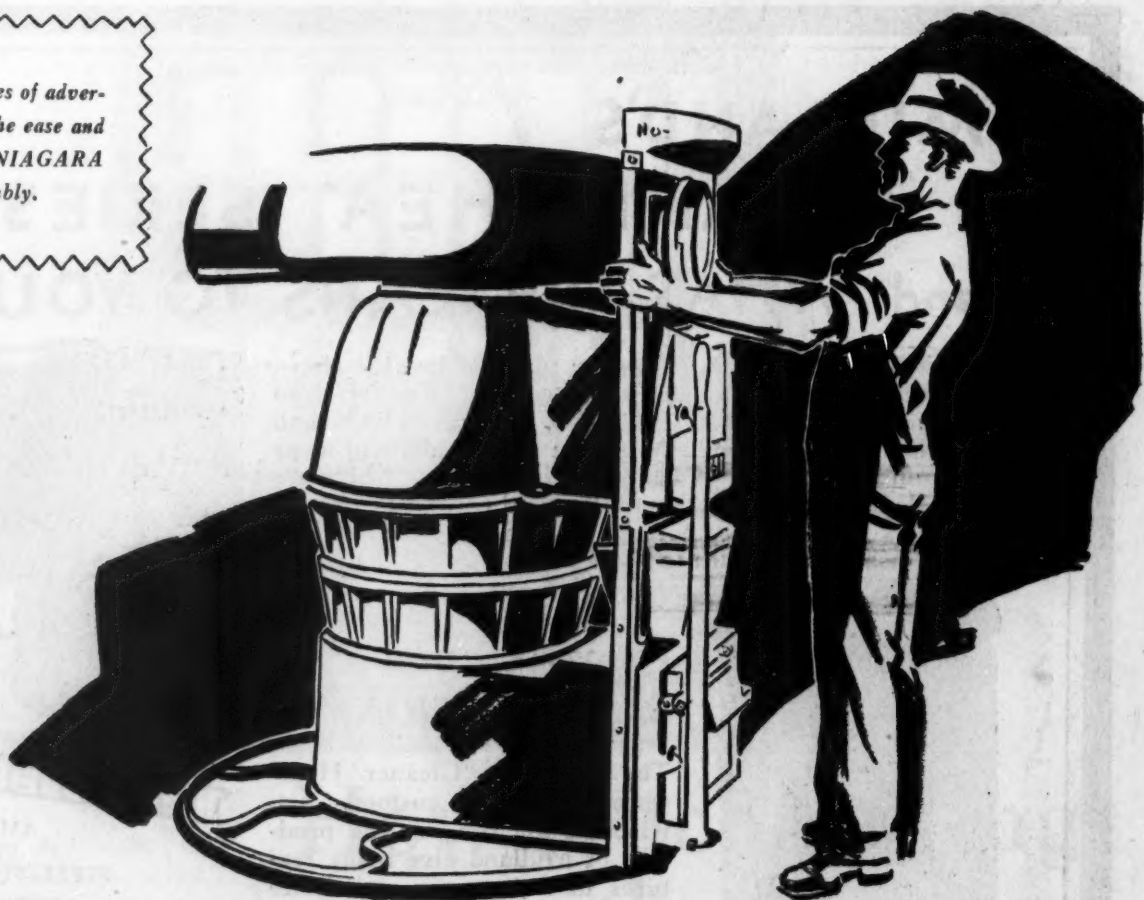
MIDLAND FURNACES

ALL STEEL ♦♦♦



CLEANER HEAT

No. 5 of a series of advertisements on the ease and simplicity of NIAGARA Furnace assembly.



Assembled ~ Ready for the Casing

EASY assembly! We've been telling you how and why for the past four months on the pages of this magazine.

First, we pointed out the quick and easy leveling of the Niagara One-piece Base.

Then, we showed how the full-cup joints aided in the instantaneous and perfect fit of ash pit and fire pot.

Our next ad illustrated how the feed section literally dropped into place and lined up perfectly.

Last month our ad told you how simple it was to lay on a Niagara One-piece Radiator and obtain a positively smoke-tight joint.

Here's your last operation before affixing the casing. Simply lift the upper front and place it on top of the lower. The Niagara Front is in 2 parts to permit the expansion of the casing without affecting alignment. And by the way, the Niagara Furnace Front in oxidized copper flaked with gold is the handsomest furnace front on the market, bar none.

If you have not read all of these Niagara ads, simply drop us a line and we will send you the complete Niagara assembly series.

THE FOREST CITY-WALWORTH RUN FOUNDRIES CO.

Member National Warm Air Heating Association

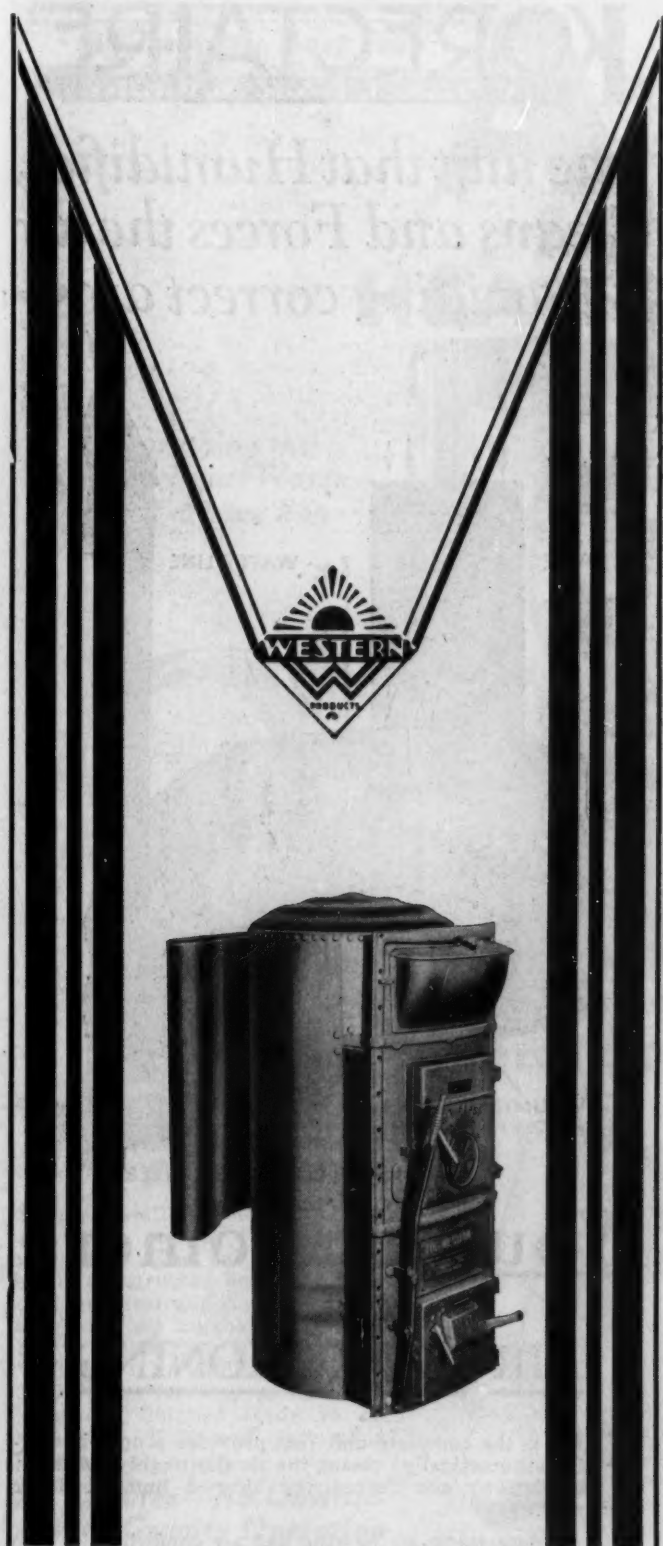
2500 West 27th Street — Cleveland, O.



NIAGARA

WARM AIR HEATING SYSTEMS

Say you saw it in AMERICAN ARTISAN—Thank you!



ORE!

More than ever before furnace dealers are looking to the Western for greater sales volume and customer satisfaction. In every state in the Union the Western is known and SOLD.

Built to counteract the biting cold of the Northwest, this modern practical furnace will satisfy the heating needs of customers anywhere. Get in touch with the nearest of our jobbers listed below and let him show you Western's many advantages.

Or write to us for Catalog No. 16.

WESTERN STEEL PRODUCTS CO.

130 Commonwealth Ave. - Duluth, Minn.

Pittsburgh, Pa.—Wagener-Proie Furnace Company.

Ravenna, Ohio—Ravenna Furnace Company.

Cincinnati, Ohio—Niehaus Furnace Repair Company.

Atlanta, Ga.—Moncrief Furnace Company.

Chicago, Ill.—Western Steel Products Company.

St. Louis, Mo.—MacRoy Supply Company.

Kansas City, Mo.—Kansas City Furnace Company.

Duluth, Minnesota—Marshall-Wells Company.

Omaha, Nebraska—A. Y. McDonald Manufacturing Company.

Lincoln, Nebraska—A. Y. McDonald Manufacturing Company.

Sioux City, Iowa—A. Y. McDonald Manufacturing Company.

Minneapolis, Minn.—A. Y. McDonald Manufacturing Company.

Fort Dodge, Iowa—Leighton Supply Company.

Fargo, N. D.—Fargo Cornice & Ornament Company.

Seattle, Wash.—McPherson Furnace & Equipment Company.

San Francisco, Cal.—Pacific Sheet Metal & Furnace Company.

Winnipeg, Man.—Marshall-Wells Company.

Saskatoon, Sask.—Wood-Vallance Company, Ltd.

Regina, Sask.—Wood-Vallance Company.

Edmonton, Alberta—Marshall-Wells-Alberta Company, Ltd.

Say you saw it in AMERICAN ARTISAN—Thank you!

Notice
the
rounded
corners—



—warm
air
“flows”
through
**HANDY
PIPE**

WITHOUT Friction

YOU can be sure that your customers get all the warmth the furnace generates—all the warm air that starts up the leader pipes if you use **HANDY PIPE**.

This pipe has no sharp corners to retard air travel or set up “whirlpools.”

Smooth air delivery may often be the difference between an installation that operates perfectly and one that causes serious complaints. **HANDY PIPE** is famous for quick, easy and tight locking. It is made of highest grade material by union men in a union shop.

ORDER THROUGH YOUR NEAREST JOBBER

The rush reason finds us ready as usual to fill your orders for all warm air installation supplies.

No matter what you need, if it's for installation of warm air furnaces we have it and make a habit of **GETTING IT TO YOU FAST.**



Write
today
for the
complete
**HANDY
PIPE**
catalog

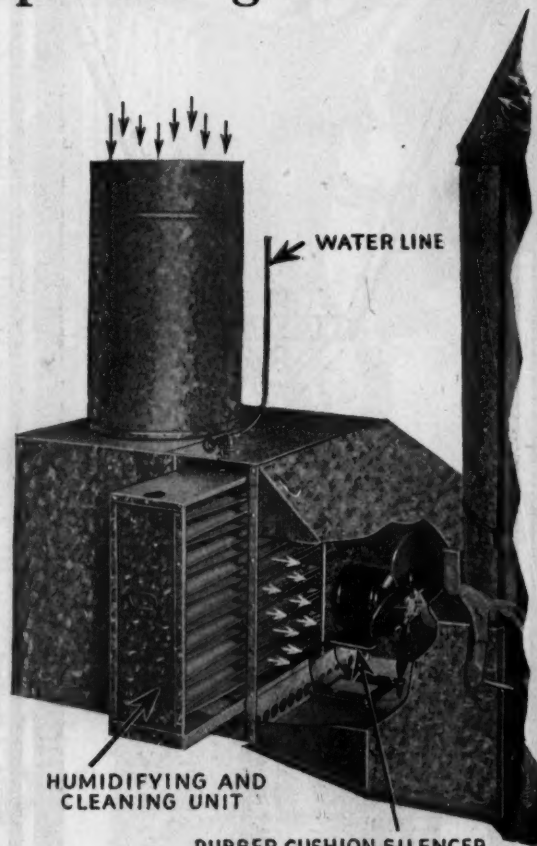
F. MEYER & BRO. CO.

PEORIA, ILLINOIS

KORECTAIRE

The CORRECT AIR MACHINE

The unit that Humidifies,
Cleans and Forces the air
---providing correct air---



Your Customers want AIR CONDITIONING

HERE is the complete unit that provides proper humidity (automatically) cleans the air thoroughly (without air retardation) and forces the cleaned humidified air efficiently.

Sell complete warm air heating and air conditioning with **KORECTAIRE** which can be used with any warm air furnace. *Easily installed!*

Notice the high grade waterproof, trouble free motor and fan. Spring mounted and set on sponge rubber plates to eliminate noise and vibration.

Your customers want this added feature—**KORECTAIRE** is in successful use in thousands of warm air heating installations. It means more warm air heating sales and more profit to you with little added cost to the customer.

Write today for full dealer information and prices.

WATT MANUFACTURING CO.
STERLING, ILL.

By Far, the Best Buy

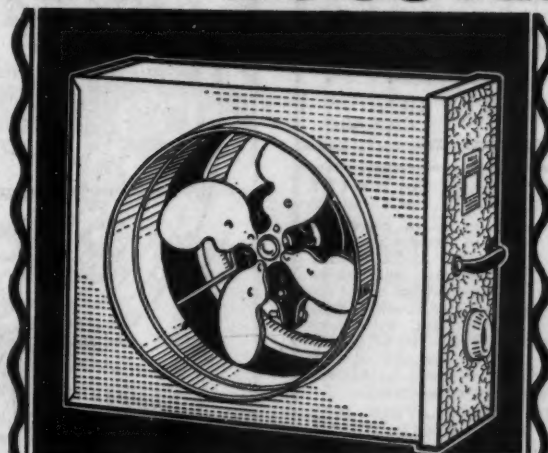
in the Field!

A-C

Thermostatically Controlled

Automatic HEAT BOOSTER

Everything the
Home Owner Wants
in a Furnace Fan



—At a Price
Every Furnace
Owner Can Afford

**PRICED
COMPLETE
To The
Dealer at**

No. 9 Size Unit with 10-inch Outlets—
for the Average Small Home—Unit
and Fan with Emerson Motor, Mer-
cury Control,—Ready to Install. . .

**COMPLETE WITH
AUTOMATIC CONTROL**

\$37.50

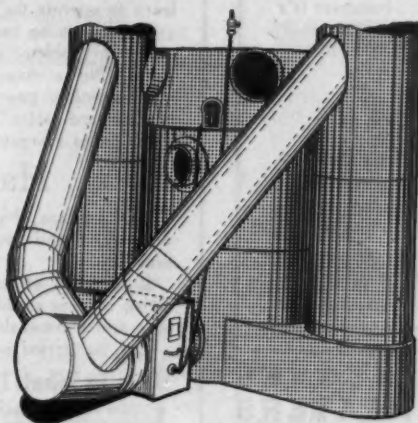
Larger Sizes for Big Homes and Buildings at Proportionately Low Prices

Quick, Easy Installation at Low Labor Cost

**Good Profit on Every Job
Insured—No Service
Expense**

Simple installation and low labor cost give you a definite price advantage. The unit fits into an easily constructed by-pass of any cold air return and is equally effective with any number of returns. **DOES NOT INTERFERE WITH GRAVITY OPERATION**—has no louvres, no back pressure. Shipped ready to install—Fan Unit and Automatic Control.

No Louvres—No Obstruction to Gravity Operation



**Flexible—May Be Used
with Any Type of
Installation**

Because of its simplicity of design and because its installation amounts to an addition to rather than a change of existing furnace construction, the A-C HEAT BOOSTER may be used with any type of warm air furnace by simply arranging the by-pass construction to suit. Performs equally well with any fuel—coal, oil or gas. Every home owner with a warm air furnace is a prospect.

[Thermostatic Control Warm
Air Furnace Fan Licensed
Under Re. Pat. No. 15531.]

**GET YOUR SAMPLES NOW—
ORDER FROM YOUR JOBBER**

Get your share of this profitable new business—be ready when your customer asks for your bid. Order samples from your jobber or send coupon to us **TODAY!**

A-C Manufacturing Co.
417 Sherman St.—Pontiac, Ill.

MAIL COUPON TODAY!

A-C MFG. CO., 417 Sherman St., Pontiac, Ill.

Gentlemen:—

Please send complete details about the A-C
Thermostatically Controlled **AUTOMATIC**
HEAT BOOSTER.

Name

Street

Town..... State.....

JOBBER'S NAME

BACKED BY EXPERIENCE

Established
1902



Famous For
Service



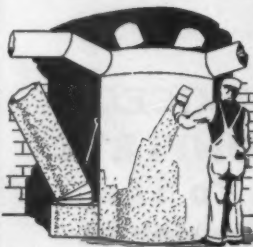
A Better Installation Is possible now with this new Self-Locking Double Stack

CHICAGO Pipe has been the choice of thousands of furnace men for over 26 years—now this improved pipe represents extra value—the result of experience and modern manufacturing methods. It clicks together quickly and easily—stays together and makes a stack of unequalled strength.

Ask about it now—write for our Catalog No. 21—on Chicago Pipe and all Furnace Supplies

CHICAGO FURNACE SUPPLY CO.
1276-78-80-82 Clybourn Ave. CHICAGO

LIQUID ASBESTOS in WHITE or COLORS



BRAND new numbers in attractive fadeless colors in furnace covering, coating, and insulation. JUST WHAT YOU NEED to increase your sales. Each attractive installation sells another. Spreads with a brush. Easy to apply—no cutting and fitting—no paste. TAKES THE PLACE OF ASBESTOS PAPER on old or new furnaces. Apply over tin, galvanized iron, or paper covered surfaces. MAKE THE INSTALLATION 100% SEAMLESS with LIQUID ASBESTOS, the tailor-made suit for every furnace.

OFFERS NEW SALES TALK HELPS INCREASE SALES. A trial order is convincing. There are many reasons why every furnace dealer should know about LIQUID ASBESTOS. It's far superior to any other covering.

FIRE AND WATERPROOF Dealers who are using LIQUID ASBESTOS are getting surprising results. Ask for our SPECIAL DEALERS' PRICES TODAY.

B. & F. MFG. CO., Dept. 7, Des Moines, Iowa

HOWES YANKEE HOT-AIR DAMPER

IT'S STRONG



The most economical because it's better and complete

IT'S TROUBLE-PROOF

Mfd. by
The S. M. HOWES CO.
Dept. G.
Boston, Massachusetts

PATTERNS FOR STOVES AND HEATERS

THE CLEVELAND CASTINGS PATTERN COMPANY
CLEVELAND, OHIO

IRON AND WOOD

STOVE PATTERNS

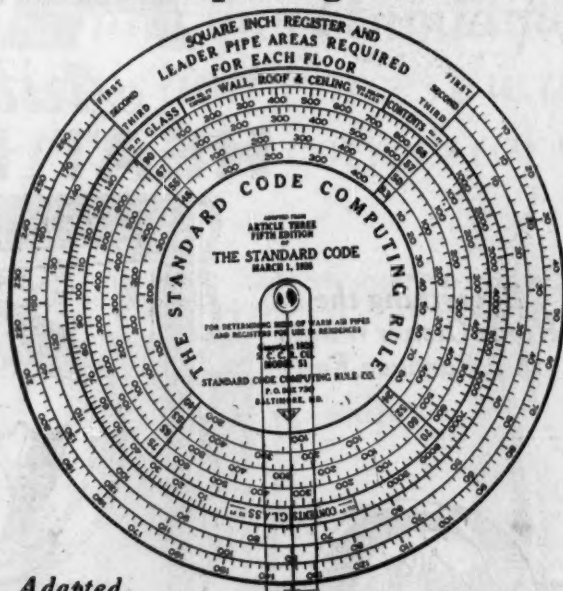
QUINCY PATTERN COMPANY
QUINCY, ILLINOIS

PATTERNS

FOR STOVES AND HEATERS FIRST-CLASS IN WOOD AND IRON

VEDDER PATTERN WORKS ESTABLISHED 1835 TROY, N. Y.

The STANDARD CODE Computing Rule



Adapted from Article Three 5th Edition

of the STANDARD CODE

MARCH 1, 1928

Simple to Operate

THE Computing Rule is not a novelty, but, a well designed mathematical device, for figuring leader pipe and register areas for warm air heating systems. It has proven its accuracy in estimating and has passed the experimental stage. It is operated similar to an Engineer's slide rule.

The complete instructions are easily understood. You can learn to operate the Rule in less than one hour.

Results can be had without a single Division, Multiplication or Addition problem, as required in Article Three of the Standard Code. Not a chance for a mathematical error.

"Remember, you do not have to refer to a lot of loose parts or awkward tables."

Simplifies accurate estimating.

Handy Pocket Size

RULES are 5½ inches in diameter—⅛ inch thick. Has an upper and lower revolving disc with a hairline indicating arm.

It is made of extra heavy and specially prepared celluloid, which reduces shrinkage and warping to a minimum. It is washable and unbreakable.

Can be carried comfortably in your pocket.

Here Is What The Computing Rule Will Determine:

- 1 The warm air pipe and register areas for First, Second and Third floor rooms.
- 2 The areas necessary for 70° inside temperature when the outside temperatures are ZERO, 10, 20 and 30 degrees ABOVE or BELOW zero.
- 3 The areas from the Contents, Glass, Wall, Roof and Ceiling. The factors as covered in Table "A" are represented in accurate form.
- 4 The areas for rooms having One, One and One-half and Two air changes per hour.
- 5 The Unusual Exposure requirements as the 10% for East and West and 15% for Northeast, North and Northwest rooms.

"Absolute Correct Results"

Price, \$3.00—Postpaid

AMERICAN ARTISAN

139 North Clark Street
CHICAGO, ILLINOIS



"GEM" ADJUSTABLE REGISTER SHIELDS

Adjustable
10 in. to 19 in.


Orders keep coming in from all over the country—wherever warm air furnaces are used, "GEM" Adjustable Register Shields are bound to be popular. Stock and display them, and reap your profit.

For all size registers. "GEM" Floor Shield. Black retails at \$1.25; Dull Brass or Oxidized Copper at \$1.50; "GEM" Wall Shield, Black, 65c; Dull Brass or Oxidized Copper, 75c.

BEH CO

1140 BROADWAY, NEW YORK, N.Y.

BUY FROM YOUR JOBBER




BOLTS

WE MANUFACTURE A COMPLETE LINE OF BOLT PRODUCTS, INCLUDING STOVE BOLTS, CARRIAGE BOLTS, MACHINE BOLTS, LAG BOLTS, NUTS, COTTER PINS, ETC. ALSO STOVE BODS, SMALL RIVETS AND HINGE PINS. CATALOG ON REQUEST.

THE LAMSON & SESSIONS CO.
THE KIRK-LATTY CO.

1971 W. 85th St. Cleveland, O.




McILVAINE
OIL BURNER

Listed by Underwriters

Adaptable to warm-air furnaces because the McILVAINE System of continuous flame insures no cracking or burning of fire pots, but produces even, dependable heat.

Not an Intermittent Burner

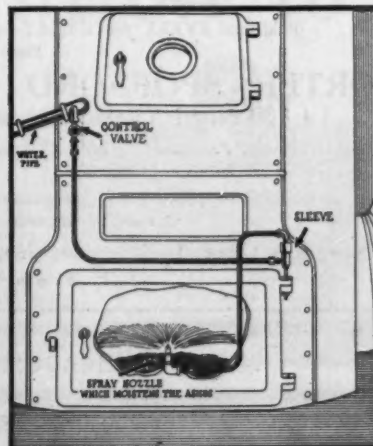
DEALERS: Write for information today.
McILVAINE BURNER CORP., Dept. A, 747 Custer Ave., Evanston, Ill.

SERVICE

American Artisan receives thousands of queries yearly. If there is anything used in your business which you can't find advertised or listed in the Buyers' Directory of American Artisan, write to our *Notes and Queries Department*. Give all the details you can and we will tell you where to obtain the materials or services you want.

AMERICAN ARTISAN

Make more sales by
offering this feature
on every
FURNACE INSTALLATION



The FURNACE DUST ELIMINATOR

IT keeps dust from spreading throughout the house—makes ash removing a clean job—makes furnace more efficient and prevents burnt out grates.

Your customers despise the dirty job of removing ashes—this feature will appeal to them.

It costs little but makes more profitable sales for you.

Furnace Manufacturers & Jobbers

HERE is a new exclusive patented feature you can adopt for your line of furnaces. Easily attached on the water connection and ash pit door. Sleeve joint enables nozzle to swing out of the way with door for removing ashes.

Write for illustrated circular and prices today

DUSTLESS ASH COMPANY
MUSKEGON, MICHIGAN

KU-NO The Practical Warm Air Register



EASIEST to remove—only a slight pressure of the thumbs against top of frame with grip on face as illustrated is necessary.

No Screws—No Springs
KU-NO is the NEW patented register everybody is praising for its attractive design, simple and No Jar or Vibration locking device and FREE AIR CAPACITY.

Write for illustrated circular and prices today. Give us your jobber's name.

KU-NO REGISTER MFG. CO., St. Louis, Mo.

of CHARLES SMITH WATER HEATERS

THE "Alamo" LINE The ALAMO CROSS HEATER

for Combination Warm Air and Hot Water Heating



THREE SIZES CONNECTED

INSTALLED in center of furnace above the fire it does not interfere with heating efficiency of furnace or firing. It receives maximum heat and deflects heat to sides of furnace.

The Alamo Cross is made in 11 sizes to heat with hot water radiation from 1 to 10 rooms. High grade throughout—rounded corners eliminate all friction. Made for all types of warm air furnaces.

Manufactured by the makers of the Little Giant, Geyser and Crescent Hot Water Heaters. Place a trial order now.

Write for descriptive circular today

ALAMO HEATER CO.
6143 Wentworth Ave. CHICAGO, ILL.

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Founded 1880

American Artisan

The Warm Air Heating and Sheet Metal Journal

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Foreign\$4.00

Published EVERY SATURDAY—to Promote Better Warm Air Heating and Sheet Metal Work

PORTER - SPOFFORD - LANGTRY CORPORATION
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F. R. Whitten, Eastern Representative

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41 JOBBER CARRYING STOCKS IN 65

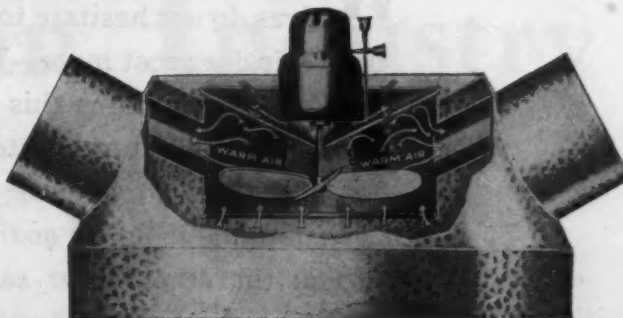
CITIES IN THE UNITED
STATES AND CANADA

BAKER-PAYNE-VOYE CO....Boston, Mass.
THE BECKWITH CO....Dowagiac, Mich.
BERGSTROM MFG. CO....Neenah, Wisconsin
CARR SUPPLY CO.....Chicago, Ill.
DAYTON-HESSLER CO.....Syracuse, N. Y.
DEMMLER BROS. CO.....Pittsburgh, Pa.
DOWAGIAC STEEL FURNACE CO.....
.....Dowagiac, Mich.
FARRIS FURNACE CO.....Springfield, Ill.
C. L. FEATHERSTONE FURNACE
CO.Spokane, Wash.
FOLLANSBEE BROTHERS CO., Pittsburgh,
Rochester, Cincinnati, Memphis, Detroit,
Indianapolis, Milwaukee, Louisville.
FLORAL CITY HEATER CO., Monroe, Mich.
FOX FURNACE CO.....Elyria, Ohio
HEATING & SUPPLY CO., Pittsburgh, Pa.
HENRY FURNACE & FOUNDRY CO., Cleve-
land, O.; Indianapolis, Ind.; Pittsburgh, Pa.
M. K. HOKE ESTATE.....Manheim, Pa.
HOMER FURNACE CO....Coldwater, Mich.
IDEAL FURNACE CO.....Detroit, Mich.
INTERNATIONAL HEATER CO., Utica,
Chicago, Cleveland, Nashua, New Hamp-
shire, Longbranch, N. J.
KALAMAZOO STOVE CO., Kalamazoo, Mich.
KELLEY-HOW-THOMSON CO.,
.....Duluth, Minn.
KELSEY HEATING CO.....Syracuse, N. Y.
W. E. LAMNECK CO.....Columbus, Ohio
LENNOX FURNACE CO., Inc., Syracuse, N.Y.
LENNOX FURNACE CO. OF CANADA,
Ltd., Toronto, Ontario & Winnipeg, Man.
THE MAJESTIC CO.....Huntington, Ind.

MARSHALL-WELLS CO.....
Duluth, Minn.; Billings, Mont.;
Great Falls, Mont.

MAY-FIEBEGGER CO., Newark, O.; Akron, O.
MIDLAND FURNACE CO., Columbus, Ohio
MONCRIEF FURNACE CO....Atlanta, Ga.
NEW IDEA FURNACES, LTD.,
.....Ingersoll, Ont., Can.
THE OHIO SHEET METAL & MFG.
CO.Dayton, Ohio
J. M. & L. A. OSBORN CO.,
.....Cleveland, O.; Buffalo, N. Y.
PEASE FOUNDRY CO., Ltd.,
.....Toronto, Ontario, Canada
PENINSULAR STOVE CO....Detroit, Mich.
PORTLAND STOVE FOUNDRY CO.,
.....Portland, Maine
RICHARDSON & BOYNTON CO., New
York, Chicago, Boston, Philadelphia,
Buffalo, Minneapolis, Newark, N. J.
THE SCHILL BROS. CO.....Crestline, O.
SUCCESS HEATER MFG. CO.....
.....Des Moines, Iowa
WESTERN STEEL PRODUCTS CO.,
.....Duluth, Minn.
GEO. F. WHEELLOCK CO., Birm'gh'm, Ala.
WISE FURNACE CO.....Akron, Ohio

Now is the time to
call your customers'
attention to the—



ROBINSON Heat Distributor

MANY dealers put a Robinson Heat Distributor in their car or truck when making furnace calls of any kind. They find that showing it paves the way for more sales.

Folks can't help being interested.

The Robinson Heat Distributor is so simple and efficient that every man who has a warm air furnace heating system in his home wants to know all about it.

Its operation is easy to explain—its efficiency is easy to demonstrate and its economy makes it easy to sell.

Try this business getting idea now with this business getter.

Our nation wide jobber connections insure prompt delivery from stock.

HERE IS ANOTHER NEW ONE

Consult this jobbers' list—there is a jobber near you who will send full details, circulars and prices.

The Robinson Heat Distributor is easy to install. No large material and time charges for alterations to cause resistance to sales.

Start now to make worth while extra profits with this fast selling furnace fan.

Manufactured by

The A. H. ROBINSON CO., Massillon, Ohio

THE WEIR DOES COST MORE

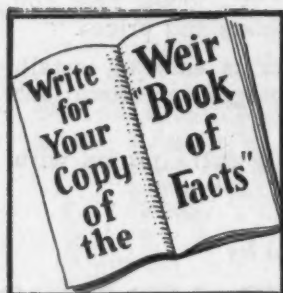
WEIR traveling sales representatives do not hesitate to tell you that the Weir *does* cost *more*—Weir advertising frequently states this fact and right now seems an appropriate time to say it again. The *price* of the Weir tells you something about its *quality*—it also tells you that the *dealer sales policy* under which it is sold is *sound* and *fair*.

The quality of the Weir is always the same—as *high* as we can make it. The price is always the same—as *low* as we can keep it for the quality offered.

The fact that the Weir costs more is proof that we build the Weir up to the highest standards known and not down to meet a given price.

Good, healthy business for Weir dealers proves to us that this is sound business sense as well as an ideal situation which tends to elevate the warm air heating business.

Prove it yourself—a Weir on your sales floor will give you a new enthusiasm for *better* warm air heating—you'll *know* you are selling real quality and your customers will easily see its greater worth—and gladly pay you a larger profit.



**THE MEYER FURNACE CO.
PEORIA-ILLINOIS**



American Artisan

The Warm Air Heating and Sheet Metal Journal



Vol. 98

CHICAGO, NOVEMBER 2, 1929

No. 18

Selling an Industry to the Public

IN OUR issue of September 28 there appeared an editorial entitled, "A Challenge, or Just More Rope?" It concerned itself with a furnace advertisement of a mail order house appearing in the *Saturday Evening Post*, and attempted to illustrate how miserably the advertiser had failed to recognize his responsibility to the warm air heating industry by completely ignoring a splendid opportunity to do the industry a good turn. In this case it would not in the least have impaired the effectiveness of his copy.

Fortunately for the furnace industry, all of its advertisers are not so lacking in their recognition of the fact that they do have a duty to the industry in general. Nor are they afraid to do something about it. The accompanying reproduced advertisement is that of a furnace jobbers appearing in the medium mentioned above on October 19.

IT IS not known whether that manufacturer was inspired by what we said in our editorial of September 28 (we would like to think that he was so inspired what we said) or

whether it was just one of those peculiar coincidents that so often happen. But, irrespective of how it came about, the fact remains that the ad did appear and its content typifies exactly the idea we had in mind when writing the editorial.

This jobber has produced an advertisement that will not only bring

his own company good returns, but it cannot fail at the same time to have a good effect upon the entire warm air heating industry. Our only regret is that it is only one advertisement. If only more manufacturers could see their way clear to do likewise, the service the industry has to offer, as well as its superior merit, would soon be well known to the public.

IN THIS connection the warm air furnace manufacturers could learn a great deal about the psychology of merchandising from the automobile industry. An incident will illustrate. One day last week a manufacturer of electric trucks ran a full page advertisement in the *New York Times*. In it he naturally listed many of the outstanding reasons why it is to the advantage of commercial houses who have use for trucks to place their confidence in electric trucks. The remainder of the ad was couched in language somewhat of the following nature: "Of course, we want to sell you our electric truck, but the main object is to sell you on the ad-
(Continued on Page 23)

THE SATURDAY EVENING POST October 19, 1929

Yes, sir—I've had my fill of rattling inside the radiator and heating inside the radiator. I've had of dodging drafts. I've had of dirty walls and dripping of doctor's bills for winter colds. I'm good and ready to find out about the new, revolutionary Follansbee method of heating. Send me the full story and your booklet 'Just Weather in January Home'.

Name _____
Address _____

ORDERS taken now for JUNE weather this winter

It's waiting for you! The balmy warmth of sunny June days—in every room of your home—every day all winter!

Not just heat—but a fresh, pure, uniform atmosphere—the atmosphere that makes summer days the ones you look forward to all the year.

Not stuffy hotness at one end of the room and icy drafts in the other—but smooth, even, pleasant temperature all through the home. Do you get this new kind of wintertime comfort in your home now?

Hundreds of American dwellings—new ones and old—large and small—have begun to have this new winter livability—brought to them by the Follansbee Fresh Air Heating System.

Something new has happened! Come something to find out about the Follansbee Fresh Air Heating System. Just mail the coupon.

And you own it to yourself to find out! If you're planning to build, or are now building, a new home, don't invest in a heating plant without first investigating this new Follansbee system. Don't risk installing some system that may prove inadequate—or may be out-of-date in a few years' time. If you live in an old house that has outlived its heating system—don't fail to find out about this new method of making old homes as young and livable again as the most modern of structures.

Before have known the luxury of comfort this new system brings the freedom from heating trials the banishing of dust and dirt the elimination of colds and other winter troubles that are part and parcel of old-fashioned heating methods.

And best of all—this new convenience, comfort, cleanliness and health are obtainable at lower cost, both of installation and maintenance, than the average home heating system.

FOLLANSBEE BROTHERS CO., PITTSBURGH, PA.
Makers of Follansbee Fresh Air Heating Appliances and Distributors in Principal Cities of the United States

These dealers throughout the country who are marked with an asterisk (*) are the Follansbee System dealers in the New York City and New Jersey area. Write them for complete literature, which will be mailed to you free of charge.

The Follansbee Ad, Counteracting Detrimental Effects of a Mail Order Ad

Seam Design Knowledge

A Necessary Part of Sheet Metal Worker's Training

By Adolph Kealer,
Instructor in Sheet Metal, Washburne Trade School



A. Kealer
Associate Editor

A VERY essential part of the sheet metal worker's training is the knowledge of designing the right kind of seam or joint for any particular sheet metal job.

Seams should be placed in such a position so as to be practical and economical, considering the standard size of sheets used.

This plate shows a few of the seams and joints mostly used.

Fig. 1. The ordinary lap seam.
Fig. 2. The countersunk lap seam.
Fig. 3. The folded seam. Fig. 4. The grooved seam.

Note: When using the grooved seam, attention should be given to the requirement, whether the article made should have the seam flush on the outside or inside.

Fig. 5 shows a ventilating pipe on a rail grooved inside and flush outside. This lock is formed by pounding the locked edges with a mallet into the groove of the rail.

Fig. 6 is a riveted seam. Note: The allowance for a riveted seam should never be less than three times the thickness of the rivet.

Fig. 7. The inside corner lap.
Fig. 8. The outside corner lap.

Figs. 9 and 10. Standing seams. Note: In round or rectangular ventilation pipes, grooved or riveted seams are generally used, but in cases of very large rectangular pipes

a standing seam is used as a stiffener. Figs. 9 and 10 are examples of this nature.

Fig. 11. The corner lock seam or double seam. Fig. 12. The Pittsburgh seam. Note: The Pittsburgh seam is generally used as a corner seam in ventilation work, such as pipes and fittings.

Pipe Joint Connection by Means of Slips

To connect joints of rectangular pipe, the four slips shown here are generally used. Fig. 13. The S slip. Fig. 14. The double S slip. Fig. 15. The slip with the rolled bead. Fig. 16. The drive slip or cleat.

Joints for Cornice Work

When detailing cornice designs it is well to know the approximate amount of metal required, in order to be able to locate the seams as

near as possible to the standard size sheets used.

Figs. 20, 21, 22 and 23 are examples of joints in cornice work.

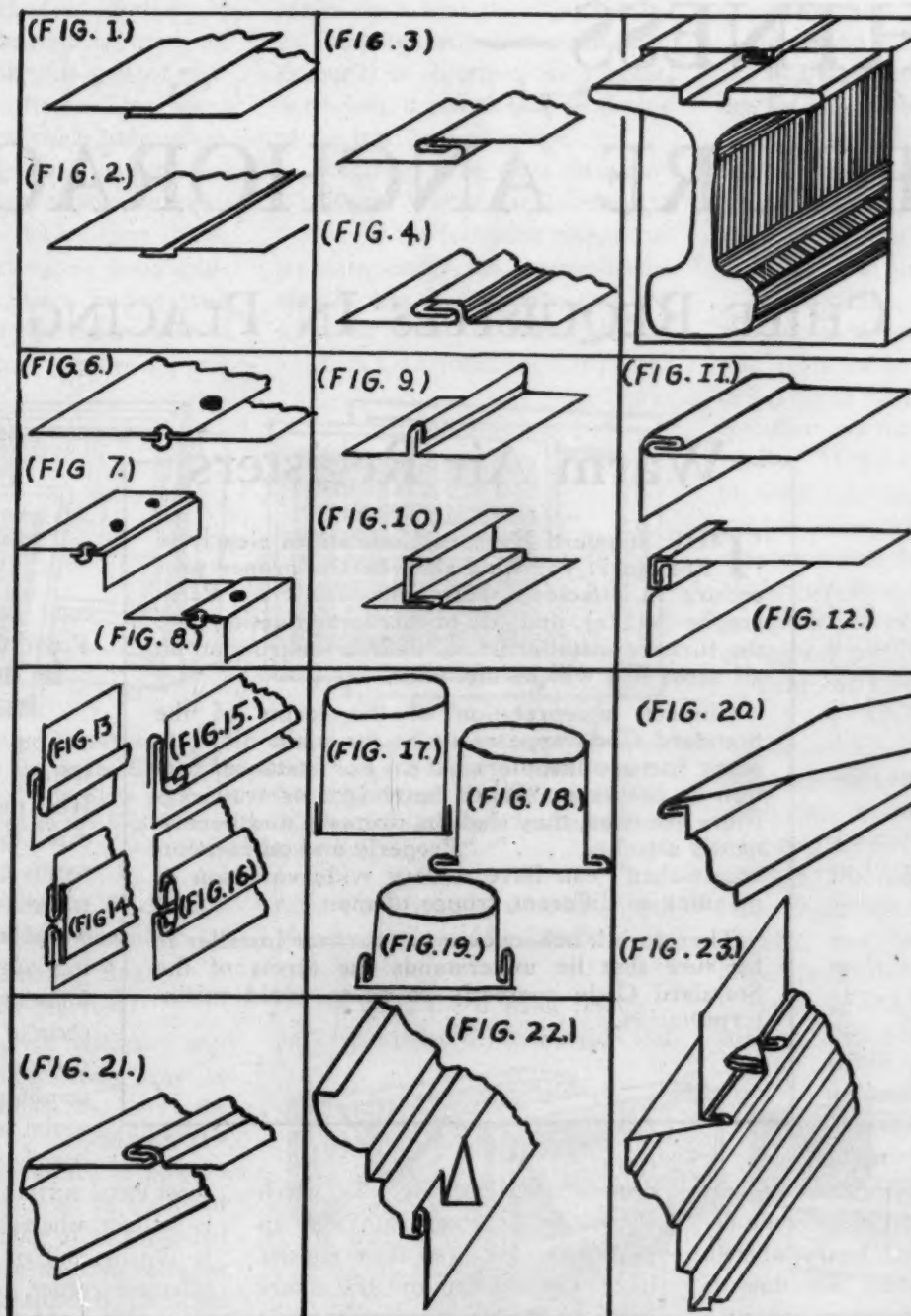
Ed. Gardner Activities Not Confined to Sheet Metal Business

Edward A. Gardner, junior member of the firm of Joseph Gardner Co., 147 Kentucky Ave., Indianapolis, Indiana, was elected vice-president of the General Protestant Orphan Association, which was founded in 1867 by members of the various German Protestant churches and societies, and is one of the oldest orphan associations in Indianapolis.

Joseph Gardner, Ed.'s father and past president of the National Association of Sheet Metal Contractors, has also been very active in the affairs of the orphan association.

Chas. Asmussen, Muskegon, Mich., to Remodel Shop During Coming Year

The Charles Asmussen Roofing Company, 154 Ottawa Street, Muskegon, Michigan, are planning an addition to their workshop and office space during the coming year, and although they now have one of the most attractive looking sheet metal establishments in their city, it



Constructing Patterns for Seams

is the intention to make a special provision for a window display that will permit the adequate showing of their products.

Charles Asmussen, head of the company, stated that there is a merchandising problem involved in the sheet metal and warm air heating business which few men in the industry have to date been willing to recognize.

"You see," said Mr. Asmussen, "our establishment is located on the only outlet to the north of Muskegon. All traffic leaving and entering our city from the north must pass

in front of our shop. Now it is our intention when we build our addition next year to take full advantage of this fact and put a display window in that will properly advertise our products and services, and give the public the impression that we are specialists in our line just the same as an engineer in any other line."

The appearance of the present shop and office of the company would give that impression. But Mr. Asmussen will not be satisfied until he has a window display properly equipped with lights so as to keep his business before the public.

A very convenient arrangement obtains in the warehouse of the Charles Asmussen Roofing Company. The warehouse floor is raised to a level of the truck bottom. Trucks backed into the warehouse can be loaded or unloaded with little or no great lifting of the products. It saves time and effort in storing or delivering furnaces, sheet metal items and other roofing products.

Mr. Asmussen also stated that his sheet metal business was about double that of last year and it all will show a good profit.

TIGHTNESS—

SECURE ANCHORAGE—

CHIEF REQUISITES IN PLACING

—Warm Air Registers—

MAKE them tight and dust-proof is the main consideration in properly attaching warm and cold air registers in a warm air heating system.

Next in importance is stream line design of intermediate pieces, usually known as boxes.

Dirt streaks about registers are directly traceable to cracks outside the borders. Either the aperture has been inaccurately cut or the connection slovenly made.

Failure of certain rooms to heat often may be charged to crude design of boots and boxes wherein obstruction to warm air flow is offered, with consequent reduction of the quantity of warm air supplied.

Eliminate Sharp Corners

With reference to sheet metal register boxes, the general rules are that the throats of the duct openings must at least equal the warm air leaders to which they are connected, be free from sharp corners and opposing surfaces which offer back pressure.

Finished connections demand, further, that all burrs, lips, seams and similar protrusions be bent smooth and joints be as nearly tight as possible.

The foregoing points are well

THE Standard Furnace Code states clearly in Section 7: (a) what shall be the proper procedure in attaching warm air registers. Paragraphs (b), (c), and (d) of this same Section give the furnace installer pretty definite instruction on all cases that will be met with.

Correct interpretation of the terms of the Standard Code appears to be the main difficulty many furnace installers have. For instance, Section 7. (a) says: "When baseboard or wall registers are used, they shall be properly and permanently attached" "Properly and permanently attached" can have a very wide variation of meaning to different groups of men.

Therefore it behooves every furnace installer to be sure that he understands the terms of the Standard Code correctly so as to avoid misinterpretation.

demonstrated in Fig. 1, which shows, left a transition from an oval riser to a deep floor register box. Construction of this nature might occur when necessary to avoid a joist or other obstruction. The correct design is shown in the same figure, at the right.

Arrows in the illustration at the left reveal what takes place when warm air supply strikes the top of a horizontal pipe to which a vertical duct is connected. Were one to throw a pail of water against a similar surface, he would be thoroughly wet from the splash. The action of a warm air stream is identical, only not visible to the eye. That is, a back pressure is set up which retards the free flow of heat. The ultimate effect is forcing the furnace to generate more heat to over-

come the back pressure.
**From Oval to Round
by Full-Throated
Round Elbow**

Note the right illustration, by contrast. Here the transition from oval to round is by means of a full-throated round elbow. As the warm air hits the sloping surface only slight impediment to its force occurs. The same comparison is noted in the transition from the horizontal section to the register box. The opposing

sheet metal surface in the left figure is straight, whereas that at the right is sloping and of full area. The offensive corner, in reality a dead air pocket, has been chamfered.

A like condition is found in the stack heads. In Fig. 2 there are shown a double connection, with flat top, right, and with a deflecting tee, left. Imagine a current of warm air coming up both designs. In the right figure the air stream would strike the top of the head with a slap, then pass out through the two side openings into which registers are to be set. In the left hand design the air current would strike the V of the yoke, then pass out the openings, but without substantial impediment to its flow because the direction has been gradual.

Lest it be understood that the

evil result described as occurring in the design at the right is universal, let it be said that this type of connection usually receives baseboard or wall registers which have valves or louvers. These may be hand operated to give right connection piece. Some installers nevertheless install registers without valves, those similar to floor registers having snub louvers. It is by no means rare to find floor registers installed as wall

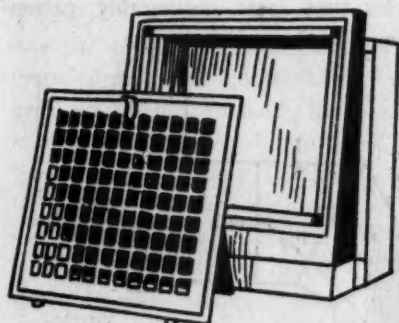


Figure 1—Showing a Baseboard Register Attached to a Stack Head with Face Removed. Note the Space Behind the Grille. At the Right a Wall Register Face and Frame. The Slots at the Right Are for Sheet Metal Straps Which Should be Soldered to the End of the Duct Collar, Put Through the Slots, Then Peened Down

registers and under the detrimental conditions heretofore described.

What If Studding Spaces Are Too Narrow?

A correctly valued baseboard register, before installation, may be seen in Fig. 3, which also shows the valve immediately behind the lattice face. A downward or upward push of the little lever at the front adjusts the opening of the required size. Were there no total valve, as is sometimes encountered, frictional resistance would reduce the heating effect.

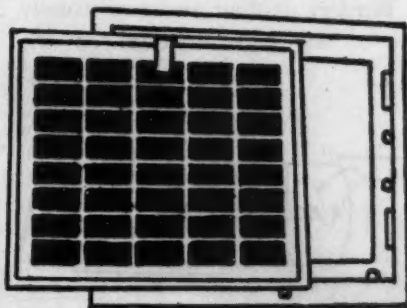
Studding spaces may be too narrow to permit satisfactory heating with a single register. Some artisans, to overcome the handicap, join on registers of narrow width and greater height; that is, they install registers on their side.

This is a profound mistake because experiment has shown that only the upper two-thirds of a wall register performs actual service on account of the velocity of the warm air within. A homely illustration might be that of a railway train which passes its station due to momentum. Warm air in heating

passes up a heat stack at substantial velocity, with the result that, although its objective, the register, is reached, it cannot take advantage of the total area of escape.

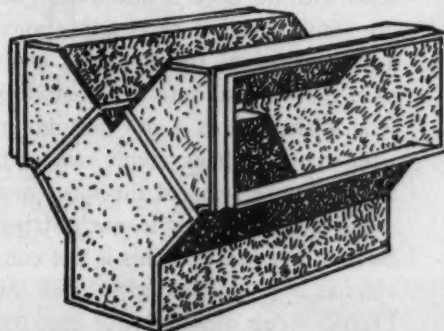
Register Free Area Must Equal Warm Air Leader

It is for the foregoing reason that registers under no circumstances may be less in free area than the warm air leader, or basement duct, to which a particular register is con-



nected. A margin of safety, say 10 per cent, provides beneficial results.

One hears much about the comparative merits of baseboard and



enter a baseboard register.

For second floor rooms baseboard and wall registers are standard practice for reasons of sanitation, effectiveness—by offering less obstruction to heat flow—and being above the floor, the strata of cool air always found there cannot interfere with the warm supply.

This condition is noted frequently on upper floors and requires that wall registers be placed at least 9 inches above the floor, otherwise the cool floor air may impede the heat supply. If the warm air supply is of weak velocity and registers are too low, cases are by no means uncommon where the downward force of the cold floor air is greater than the upward current, hence the warm air register acts as a cold air exit.

Cold Air Circulation Needs Attention

If upper floor warm air registers were attached to the same risers that admit heat to the first floor, and were cold air to fall down the warm air duct, the heating value of the entire stack will be nullified. It is singular that great attention is given the matter of circulation of warm air in a building being heated with a furnace and comparatively

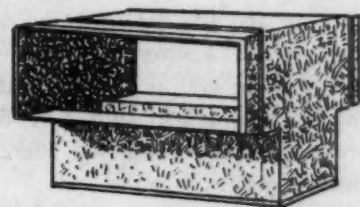


Figure 2—Two Designs of a Double Combined Stack Head and Register Box. The Design at the Left Offers the Best Principles Since It Facilitates the Split of the Air Current by Eliminating the Sharp Turn Seen in the Box at the Right

floor registers for heating first floor rooms. In certain western states the former take precedence. In eastern states floor registers are more common at present. So far as effectiveness in heating is concerned, there is little difference. From the standpoint of sanitation and rendering a warm air plant beyond criticism there is no doubt but that floor registers pick up a great amount of dirt which would not

little to cold air circulation. Many scientific studies concern warm air distribution, whereas it is equally important to know what becomes of the air along the floor line. Misplaced registers often tell the tale, through bad example.

Effort to save time and labor cost are underlying causes of register failure. Sometimes, for example, one sees in residences completed only a few months fair sized cracks

around the borders of registers. If they are in floors, lint and dirt gather in the cracks, while if they are baseboard or wall registers, the walls directly above the registers become dirt streaked. This condition, too, is seen often on ceilings.

Cases have been observed where wall registers loosen at their tops. Unless corrective measures are taken they have been known to fall out entirely. Looseness comes from neglect to solder galvanized sheet steel straps, at least one inch wide, to the ends of the register boxes.

Straps should be thrust through slots provided in the register frames bent down, and they may be soldered. The faces then are screwed firmly into frames. It is excellent practice, too, to lay felt gaskets, one-eighth inch thick, between the frames and faces before screwing. No looseness, then, can exist unless screws loosen. This they are unlikely to do, as the straps of the sheet metal box support the frames and perform the bulk of the work.

Instead of sheet iron straps some installers leave flanges on the edges of the register boxes and bend them over the frame all around, as shown in Fig. 3. If a felt or cork gasket is set on and the face screwed on, tightness is assured. There is nothing to be said in defense of the installer who takes neither of the foregoing precautions, but merely screws registers to walls.

This is a poor practice and should be discouraged at all times. Under this process an opening is left in the walls, the register boot set into the opening, then the register flanges simply screwed to the lath and plaster without gasket of any kind. The criticism is that in time the screws work out through insufficient foundation. Cracks then permit the exit of soot and dust which streak walls and ceilings.

Quoting the Standard Code

The Standard Code of the National Warm Air Heating Association suggests that "When a baseboard or wall register is used these must be permanently attached to the stack heads," and that floor regis-

ters "Shall be provided either with register borders or double register boxes of tin or galvanized iron, with an air space of not less than five-sixteenths inch between inner and outer boxes." These directions bring out the important points that registers must be rendered free from provoking fire hazard and must be so substantially set in place that constant travel over them will not weaken their snugness.

Borders of floor registers usually are of the same material as the

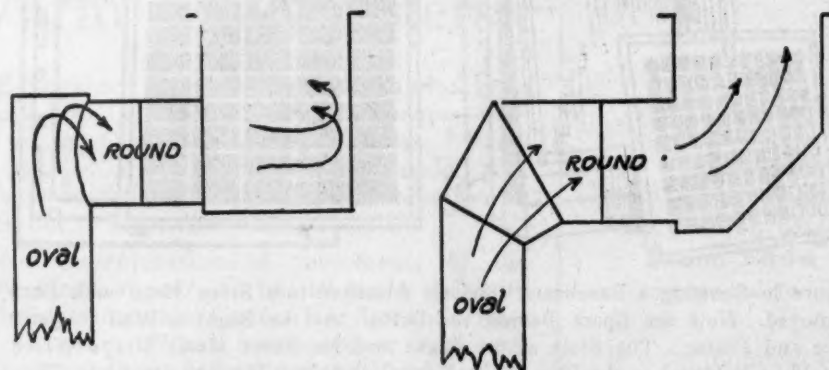


Figure 3—The Incorrect Method, Left, and the Correct Method, Right, of Making a Transition from an Oval Riser to a Floor Register in Warm Air Heating

faces today, although outer slate borders are still favored in some localities. Insetting so that faces are level with the floor is desirable from the standpoints of good appearance and freedom of travel. It is common in some sections for installers who wish to rush a job through to nail wooden strips about one inch square to the sides of the joists and screw register faces to such strips. Such a procedure as this is not considered a good plan because of the likelihood of dust passing through the crevices between frames and wood strips. If manufacturers of register boxes provide a flange on their outer edges, these may be bent down, a washer laid on and the face screwed down, thus making a substantial yet fairly quick method of connection.

Mass Output Brings Higher Wages, Lower Costs—Glenn Frank

Many superficial critics of our machine age regard mass production as simply a slick scheme for swelling profits on shoddy goods.

Genuine mass production is, on the contrary, one of the most socially valuable methods modern mankind has evolved.

It means specialization on articles that have the greatest possible value to the greatest number of people.

Genuine mass production does not follow the whims of the period or fall into step behind the will-o'-the-wisps of capricious fashion.

It centers its operation upon articles that meet measurably permanent needs and demands.

It seeks the utmost simplicity of design consistent with essential utility and beauty.

It declines to use other than durably excellent materials in manufacture.

It strives to put such good material and such good workmanship into its articles that their intrinsic merit will be their most effective sales argument.

It strives to put its wages high so that many may be able to buy.

It takes imagination, insight and ingenuity on the part of the managerial minds of industry to see the logic and the profit in the full run of the philosophy of standardization, mass production and mass distribution as I have here suggested it.

When the contagion of their success has spread widely enough, we shall see that mass production is one of the instruments the humanity of the future will use to achieve sound social progress.—(By Glenn Frank, president, University of Wisconsin, writing in his column, "Unconventional Views of Life," in the Chicago Daily News.)

Tell Folks About Good Work You Do

By George Duerr

LITTLE doubt exists in the mind of Charles L. Gatz, sheet metal contractor and warm air furnace installer, 804-06 Washington Street, Gary, Indiana, that to be successful the business must be properly advertised.

Mr. Gatz has been in the sheet metal business for more than thirty years. He began operations in a small way in a shop that was hardly large enough to turn a length of gutter in. And now he operates a representative sheet metal shop and is one of the best known contractors in Gary. During his thirty-year sojourn in a business that is supposedly so fraught with pitfalls and little jokers that the mortality rate is very high, he has built up a fund of knowledge and experience on advertising that will aid many of the younger men to avoid much trouble.

In the conduct of his business Mr. Gatz has adhered closely to two beliefs which he formulated early in his business career, namely, to do good work at all times and to advertise consistently and constantly. In his opinion, no man can hope for permanent success in his business on any other basis.

"Good workmanship and ad-



Unusual Type of Advertising Indulged in by Mr. Gatz

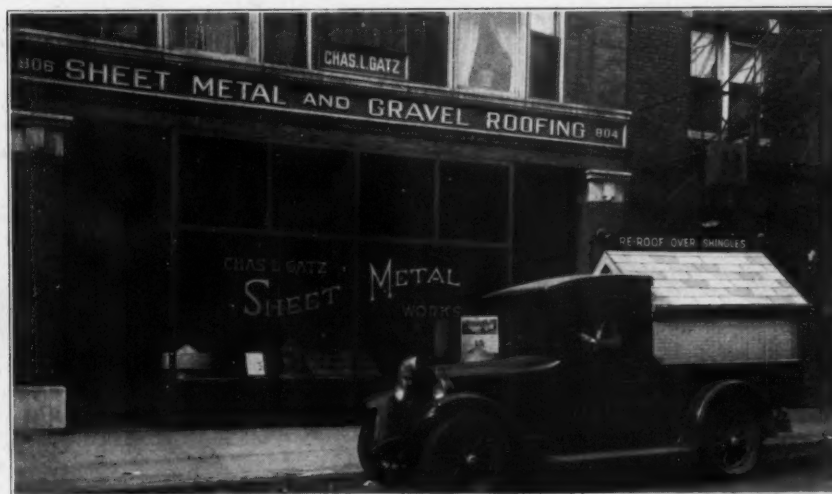
vertising go hand in hand," said Mr. Gatz. "I've made mistakes in the conduct of my business, as every one else has, and some of those errors

have been pretty costly to me, but through them all I have never deviated from the original policy with which I started out—to do the best work I knew how and to keep my name before the public.

"I said that good workmanship and advertising go hand in hand. As a matter of fact, they are almost one and the same, because if you do good work at all times, the cumulative advertising value that accrues to you therefrom goes a long way toward assisting you in making the grade. It will come in mighty handy to you when the weeding out process begins to work. It will stand you in good stead all through your future business career.

All people expect to get good work done. Some of them don't expect to pay for it, of course, but that is human nature. Therefore, the embryo contractor cannot begin too early in his career to let all those concerned see that he has the ability and the willingness to give reliable service and that he does not expect to do it for nothing.

"That process is what is commonly known as building a reputation. The big difficulty is that many young contractors fail to



Metal House Built on One of Gatz' Trucks Keeps Name and Business Before Gary Public

"Make Your Shop Look Like a Business House" Says Chas. L. Gatz

*"Appearance Goes a Long Way Toward
Attracting the Right Kind of Customers"*

realize that it is much easier to build a poor reputation than a good one. Consequently they fall into ways of doing things that cause them a great deal of trouble and lost motion to correct if they are ever able to correct it at all.

"I have assurance and proof that advertising to be effective must be consistent and truthful, and more than just one way of advertising must be employed. Buying four or five inches of space in a newspaper once a week, even though it is done every week the year round, is not advertising in the true sense of the word. I give all the methods of advertising a chance.

"For instance, here's a group of newspaper advertisements that I have used. But I don't stop at that. There's a calendar over there (pointing to a large calendar on the wall with an attractive picture and the firm name in bold letters), I know that calendar will be preserved because it is useful and at the same time not an atrocity. In its design I have endeavored to keep my name before the recipient in a way that is not too obviously an advertisement.

"Of course these calendars are not distributed promiscuously. They are given to business houses and contractors who during the course

of the coming year are going to have need of my services. Every one

needs a calendar and if it is an attractive one, it is going to be found

Sheet
Metal and
Furnace
Contractors
in All
Parts of
the Country
Are
Beginning
to Realize
the Value
of This
Type of
Merchandising
Effort.



Window Display Used by Mr. Gatz to Let Fol-

"House," Chas. L. Gatz

Toward
customer"

hung up on the wall in plain sight
and retained there during the year.

give to contractors and architect
friends, and you'd be surprised at

TOBOGGGANS

For Sale by

Chas. L. Gatz

804 Washington St.

Phone 2-2705

Residence Phone 2-2519

Mr. Gatz Is in a Locality Where Tobogganing Is a Regular Winter Sport

"The same applies to pencils. I have a certain number of these made up during the year; not the ordinary kind of common lead pencil, but attractive ones that will not get out of order the first time they are used. These I

the effectiveness with which they serve to remind the architect or contractor of their donor. Of course, here again one must use care in selecting this type of advertising. Remember that a pencil can convey a bad impression as well as a good one. Pencil advertising the way I do it is expensive, but worth while.

"A short time ago I hit upon the idea of using this card (reproduced herewith) on the string by which the telephone directory is hung up. The card is yellow in color and, therefore, an eye catcher. The hole through which the string is passed is rimmed with metal so that the card will not be easily torn off. This card then hangs outside of the book itself and comes into prominence whenever the book is referred to.

"I have the one side and that costs me \$250 for the life of the directory and I get a constant circulation of some 25,000 or 30,000 directories. I know this type of advertising is read because I have it proved to me every day. It so happens that a local laundry has the other side of the card and many calls are received over my telephone that are for the laundry. My telephone number is nothing like theirs, so the origin of the call can be but one, the card. The laundry, I have learned, gets many of our calls, so you see that's how it works. I have an agreement with the telephone company that will permit me to have first choice on this card space as long as I want it. No one else can have it until I relinquish it.

"There are signs. I'm a great believer in signs. Wherever I do a

Window
Displays
Pay Big
Dividends
Where
the
Contractor
Is De-
pendent
Upon
the General
Public
for His
Custom.



Gatz to Let Folks Know He's in Business

sheet metal, roofing or furnace job you'll find a cardboard sign. I saw one of my signs the other day that has been on the job for five years. That's a lot of advertising for the price of a little extra effort.

"I put a sign up on the lawn of a home where I was installing a heating plant. It has been five or six weeks since the job was completed. The sign is still there and will probably remain all winter.

"Of course you can readily see that when you are doing things like that you've got to be sure that your work is done right. To advertise poor work is worse than no advertising at all.

"One of my trucks has a metal house built on the back, with my name and business on the sides. It in no way interferes with the usefulness of the truck, while on the other hand, when the truck stands out on a job or travels through the streets, my name and service again is placed before the public.

"You say it costs lots of money! To be sure it does! But who ever made any money in any kind of business without spending it. Of course you can waste a lot of money in advertising, but if you examine our effort in that direction closely, you will find a well rounded policy that is pretty closely fitted to the needs of my business.

ROOFING SHEET METAL

and

CELOTEX Roofing Insulation

in the new

MODEL BUILDING

are Big Factors
in Making This One of Gary's
Finest Structures.

Roofing, Sheet Metal and
Insulation

by

CHARLES L. GATZ

804 WASHINGTON STREET

Phone 1120

Type of General Advertising Carried on at All Times by Mr. Gatz

"Last but not least of my advertising effort is my place of business. My windows and my display rooms are always kept neat and clean. This is just another phase of my entire plan of advertising. If I were to engage in all this advertising effort that I have outlined and then were to invite my prospective customers into a dirty, cluttered sales room, a great deal of the good effect built up by my other advertising would be discounted. People would lose confidence the moment they came into the store. I have my office in the rear purposely so as to allow greater display space.

"Another thing that I have discovered is this: In our line of busi-

ness no job, regardless how small or unimportant, is too small for us. Some time ago I thought I would endeavor to work into some of the larger warm air heating jobs. By so doing our smaller work dropped off considerably for lack of cultivation. It didn't take me very long to realize that this was a mistake and now I'm back after the small jobs, as well as the big ones. If the small business is worked right, it can be made to keep otherwise idle men profitably employed and comes in mighty handy.

All this continuous advertising and doing good work has built a reputation for the business and it is

now thoroughly established. We have built up a regular clientele here, but if we were to stop our publicity effort, our business would dwindle away in spite of ourselves. And the reason: People soon forget things that are not continuously pushed before their attention and even if they did not, new people are constantly coming into the picture. These must be cultivated and made our customers. The man who says he is so well known about town that he does not need to advertise is bound to come to grief sooner or later. If not, he is advertising without knowing it. There is no such a thing as being so well known that you don't

(Continued on Page 26)

Gary District Indiana Sheet Metal Men Hold Dinner at Vogel's Fish Place, Hammond

A MEETING of the Gary district sheet metal contractors of the Indiana Sheet Metal Contractors' Association was held at Fred Vogel's Fish Place on the Sheffield Road near Hammond, Indiana, on the night of October 25. There were about 35 sheet metal contractors from Gary, Hammond and surrounding cities present. The meeting was held under the immediate direction of Chas. A. Gatz, Gary District Governor.

The affair opened with a dinner of fried chicken and fish, prepared as only Fred Vogel knows how to prepare it.

The dinner was followed by an informal meeting. In the absence of the state president, Frank Anderson, who found it impossible to get to the meeting, "Virg" Roland, vice-president, Elkhart, Indiana, presided. Mr. Roland explained the purpose of the district meetings and expressed the sentiment that so far the affairs have been very successful in making it possible for the Indiana sheet metal contractors to get together and become better acquainted with one another, and to build up an enthusiasm for constructive cooperative effort. He then called upon Paul Jordan, executive secretary of the organization, to reveal some of the plans for the coming year with regard to the convention, which will be held in Indianapolis in January.

According to Mr. Jordan, it is the intention of the convention committee to continue the exhibits at the convention, and an endeavor will be made this year to have a greater representation of sheet metal items and machines on display. The Denison Hotel will again be used because of the convenient proximity of the exhibit room to the assembly hall.

George Duerr, Editor of AMERICAN ARTISAN, explained the purpose of the Cleveland meeting of the warm air furnace manufacturers

with the Federal Trade Commission a week ago, pointing out the good effects that are bound to accrue to the entire warm air heating industry if the Federal Trade Commission ratifies the resolutions adopted.

Mr. Duerr also called attention to the fact that the steel mill representatives present at the Metal Branch meeting of the National Hardware Association gave every indication that they, too, would favor a Federal Trade Conference, with the formulation of a set of resolutions that will tend to correct the abusive trade practices which are now working to the detriment of the entire industry.

W. S. Waters, past president of the Indiana Sheet Metal and Warm Air Heating Contractors' Association, said this action was in line with what the Indiana association has been trying to bring about for a long time.

Good fellowship prevailed throughout the meeting, and a rising vote of thanks was given Fred Vogel for the very excellent dinner which he prepared for the delegates. A vote of thanks was also given Charles L. Gatz, chairman of the committee on arrangements and District Governor of the Gary district, for the fine way in which the affair was arranged.

SELLING AN INDUSTRY

(Concluded from Page 13)

vantage there is to you in using the electric truck in lieu of other types of truck. We think we have the best electric truck made, but if our truck does not appeal to you for any reason, there are ten or twelve other electric truck makers who turn out good products. These manufacturers' trucks are on display at the following addresses." Here he listed the name and address of the company and location where other trucks might be seen.

That is what I term selling an

industry to the public, as well as your own product. Did that advertiser of electric trucks lose any business by his ad? No, he did not. He gained. In the first place, he made prospective truck purchasers stop and think about the electric truck industry. He made them conscious of that industry. Once get them thinking about the electric truck industry and where do you suppose the majority of them would go to learn first hand the merit of an electric truck?

Our warm air furnace advertiser has done somewhat the same thing by boosting the warm air heating industry as much, if not a little more, than he boosts himself. That is the thought that we wish to implant in the minds of all the furnace manufacturers and the dealers as well. Sell the public on the bigger things—the industry as a whole. That done, your own sales resistance is going to be less.

Ryerson Acquires Business and Equipment of Penn-Jersey Steel Co.

Joseph T. Ryerson & Son, Inc., Chicago, have purchased the business, equipment and stock of the Penn-Jersey Steel Co. of Camden, New Jersey, effective November 16.

This firm carries on hand complete stocks of steel shapes, plates, sheets, hot and cold finished bars, reinforcing bars, etc. They serve all industry and construction trades in the Philadelphia district with prompt shipment from warehouse.

The Ryerson Company plan to add to the stock and increase the facilities in order to improve and extend the splendid service for which this company is known.

Unishear to Be Acquired by Stanley Works of New Britain, Connecticut.

Effective November 2, the Unishear Company, New York, will be taken over by Stanley Works of New Britain, Connecticut. No details as yet have been made public, but formal announcement will be made to the trade shortly.

WHO'S WHO, WHERE!

DETROIT, MICH.—The Industrial Sheet Metal Works, Inc., 1321 12th Street, has been chartered, with a capital stock of \$25,000.

PORT ANGELES, WASH.—G. D. Haugen has engaged in the sheet metal business here.

POMEROY, WASH.—Oren burt has purchased the tin shop and plumbing business belonging to the J. R. Stevenson estate.

PORTLAND, ORE.—The Piper Sheet Metal Works, 573 Morrison Street, has the sheet metal work contract for the county farm kitchen, near Troutdale, Ore.

BELLINGHAM, WASH.—The F. M. Hackell Plumbing Co. has been awarded the sheet metal contract for a business building of Puget Sound Power & Light Co.

HOQUIAM, WASH.—H. J. Pryde and D. E. Pryde have incorporated in the sheet metal and roofing business as Pryde Brothers, with a capital of \$25,000.

SEATTLE, WASH.—The Columbia Sheet Metal & Furnace Co. has been incorporated by L. E. Thompson, George Malgren and Mary Wyman, with a capital of \$15,000.

SUPERIOR, WIS.—Carlson Brothers, 1216 Banks Avenue, has the roofing and sheet metal work contract for the sanatorium in Hawthorne, Wis.

LA CROSSE, WIS.—John Ledegan has been awarded the sheet metal work, ventilating and insulating contract for Gunderson Clinic hospital building.

ABERDEEN, S. D.—The Aberdeen Sheet Metal Works has been awarded the roofing and sheet metal contract for Forbes Science Hall in Yankton, S. D.

BUTTE, MONT.—Arnold Brett, S. Main Street, has the warm air heating contract for the residence of N. P. Knutsen.

DAVENPORT, IA.—The Round Oak Heating Co., 314 East 3rd Street, has the warm air heating contract for the residence of G. G. Petersen.

The Steinhaus Heating Co., 124 Harrison Street, has furnace heating contract for the residence of Harry Rathjen.

WATERLOO, IA.—The Waterloo Metal & Manufacturing Co., corner Commercial and Miles Streets, has heating contract for the residence of Peter C. Johnson.

The H. B. Fereday Sheet Metal Works, 527 Cottage Street, has the heating contract for the residence of Frank Bisdorf.

SAN FRANCISCO, CAL.—The Atlas Heating & Ventilating Co. has the sheet metal work contract for W. H. Brierly clubhouse.

PALO ALTO, CAL.—Christianson & Anderson have the sheet metal work contract for the residence of E. M. Manning.

SACRAMENTO, CAL.—Denphy & Davis, 3136 Folsom Blvd., have the sheet metal contract for addition to Sierra School.

NORTH SACRAMENTO, CAL.—B. R. Burgess has the sheet metal contract for addition to school building.

PASADENA, CAL.—The Payne Furnace Supply Co. has the heating contract for the residence of Sidney R. Francis.

The Calfur Furnace Exchange, 350 S. Raymond Avenue, has been formed as a furnace manufacturers' association by Reliable Sheet Metal Works, 350 S. Raymond Avenue, Pasadena; Pasadena Sheet Metal Works, 57 W. Union, Pasadena; Jones Heating Co., 28 E. Union, Pasadena; Taylor Sheet Metal Works, 313 S. Fair Oaks Ave., Pasadena; Clough Unit

System of Heating, 821 N. Avenue 50, Los Angeles; Hughes Sheet Metal Works, 2651 Main St., Ocean Park; and Brenginan Sheet Metal Works, 2222 Barry Ave., Sawtelle.

LOS ANGELES, CAL.—Herbert M. Rimlinger has engaged in business at 2849 Robertson Blvd., under the name of Service Sheet Metal Works.

WATERLOO, IA.—The L. E. Glaze Sheet Metal & Furnace Works, 811 Commercial Street, has the furnace heating contract for the Greek Orthodox Catholic Church.

LOUISVILLE, KY.—The plant of Ahlers & Gregoire, manufacturers of copper kettles and boilers, 621-23 E. Main Street, has been damaged by fire about \$10,000.

PALM BEACH, FLA.—Ahrens & Son have the sheet metal work for addition to the J. Leonard Replogle home.

KOKOMO, IND.—The Kokomo Stamped Metal Co., toy manufacturers, have turned over the distribution of their products in West Virginia, Tennessee, Mississippi, Kentucky, Alabama, North Carolina, South Carolina, Georgia and Florida to the Faucett-Huston Co. of 1009 Chattanooga Bank Bldg., Chattanooga, Tenn.

SAN FRANCISCO, CAL.—Lowell Davison has moved his sheet metal works from 1670 San Jose to 375 Monterey Street.

SEATTLE, WASH.—The Hogaboom Heating & Ventilating Co. has been incorporated with a capital stock of \$10,000 by H. R. and M. Hogaboom.

LA CROSSE, WIS.—The Joseph Haag Roofing & Cornice Co., 135 East 12th Street, has been awarded the roofing contract for two depots for the C., B. & Q. R. R.

ABERDEEN, S. D.—Ell's Sheet Metal Co., 123 Third Avenue, S. W., has the roofing and sheet metal contract for a store building of Urban Mercantile Co., Hebron, N. D.

WATERTOWN, S. D.—The Rohde Roofing Co. has been awarded the roofing and sheet metal contract for an apartment building and garage in Miller, S. D., and also the roofing contract for a school building in Leola, S. D.

DAVENPORT, IA.—R. Claussen, 617 W. Second Street, has been awarded the warm air heating contract for residence of McInnis Brothers.

MINNEAPOLIS, MINN.—George T. Warner, 1406-8 Washington Avenue, S., has been appointed sales representative of the Moeschl-Edwards Corrugating Co., of Cincinnati, and will carry a line of Kalameim, tin clad and steel rolling doors there, so he can make prompt delivery in his territory.

LOS ANGELES, CAL.—The Crescent Sheet Metal Works has been awarded the contract for skylights for a mausoleum at Hollywood cemetery.

The Payne Furnace & Supply Co. has the warm air heating contract for the Kenneth Fether residence at Downey, Cal.

The Main Cornice Works has been awarded the sheet metal contract for an office building of Los Angeles & Phoenix Express Co.

LONG BEACH, CAL.—The Emil Brown Co. has the sheet metal contract for the hangar and quarters building at the Municipal airport.

WATERLOO, IA.—The H. B. Fereday Sheet Metal Works has been awarded the warm air heating contract for two

residences of Sam Scott and three residences of John J. Beck.

WICHITA, KAS.—The Western Sheet Metal Works, 450 N. Main St., has the roofing and sheet metal contract for the Edmund Stanley school.

Furnace Installers

Complain of Poor

Deliveries from Manufacturer

We received a rather unusual request the other day that made us stop and wonder whether the furnace manufacturers are doing everything they can to expedite shipments of repair parts for furnace.

Here's what the subscriber said in his letter:

"We believe that it would be a good thing for the trade in general if you could have an article in the ARTISAN at this time explaining a system for furnace manufacturers in handling repair business during the rush season.

"Our reason for this request is that an order for grate bars was sent to a furnace manufacturer on the fifth instant. And today, the fourteenth we received an order blank and a request to sign it and enclose a check to cover same.

"During the season 1926 and 1927, we purchased five carloads of furnaces from these people and paid for them as we agreed—so there is no question of credit. The way these people handle their repair business it will take about three weeks for a dealer to get the repairs during a season when immediate action is necessary.

"Trusting that you can do something to correct this evil, we are."

Delays of this kind right now are certainly costly to the furnace installer, and the manufacturer should so organize his affairs as to give the installer the quickest possible service on repairs. It is only by responding promptly to the requests for help from the customer that the installer can build good will, but if the manufacturer holds up the dealer's order for two or three weeks, it is very disappointing to the latter to say the least.

Perhaps in some cases the manufacturer is justified in seeking to

learn the credit rating of an installer before shipping the repairs to him, but it doesn't seem as though two or three weeks would be required for that purpose. If there is a question of credit, which there apparently was not in this case, it would seem that sending the goods C. O. D. would be preferable to making the installer wait. What he wants is the repair parts so that he in turn can give the customer heat.

Let's see if we can't be a little more sympathetic to the problems of the furnace installer. He has troubles enough without having delays in shipping added to his pack of worries. In these days of rapid transportation and economical telephone service there is little excuse for delays of a week, to say nothing of two or three. The progressive furnace manufacturers of today have so arranged their affairs that they have sufficiently definite knowledge of at least their own dealers' credit to permit them to ship or refuse to ship repairs promptly. That is as it should be. Other manufacturers had better look to their knitting.

G. E. Spates of Time-O-Stat Controls to Take Charge of Detroit Office

Time-O-Stat Controls Co., Elkhart, Ind., has appointed Gerald E. Spates to take charge of the Detroit office located at 4270 Second boulevard.

Mr. Spates, for the past three years, has been sales engineer at the factory. Carl A. Scholle, who recently was placed in charge of the New York office, will devote his entire time to the distributing organization, and will travel direct from the home offices.

Ray G. Schott has been appointed manager of the New York office located at 11 West 42nd Street. Recent appointments of new distributors are: Braid & Haberkorn, Inc., 940 Speer Boulevard, Denver, Colorado; J. H. Lynn, 724 McIntyre Building, Salt Lake City, Utah; Cline Co., 535 W. Main Street, Oklahoma City, Oklahoma; J. Sylvan Bowers, Heating Specialty Co., 3805

Page Boulevard, St. Louis, Missouri; Northwest Time-O-Stat Distributors, 2707 E. Lake Street, Minneapolis, Minnesota; American Appliance Co., 1214 Harvey Street, Omaha, Nebraska.

J. M. Oliphant Dies Following Heart Attack

His many friends will regret to learn of J. M. Oliphant's death, who passed away at his home in Indianapolis on Saturday, October 19, as the result of a stroke suffered over four months ago and from the effects of which he failed to recover, in spite of his determination to get well.

"Jack," as he was affectionately



J. M. Oliphant

known to countless acquaintances, especially dealers throughout the state of Indiana, where he had represented the Meyer Furnace Company for more than fifteen years, was acknowledged to be a salesman of the highest caliber, and he was for quality first, last and always. His work in promoting better methods in heating practice (even before the Standard Code, of which he was a staunch advocate) will live long after him, this also applying to other territories as well as Indiana, for he operated as one of his company's special promotional representatives in all parts of the country—in fact, it was while on one of these special

missions in the East that he was stricken at Bridgeport, Connecticut.

Second only to his devotion to his family was his loyalty to his company and his whole-hearted interest in warm air heating, and his untimely departure will be felt as a distinct loss.

Rudy Furnace Co. Has Gas-Fired Unit Soon to Be in Regular Production

The Rudy Furnace Company, Dowagiac, Michigan, under the direction of Tom Torr, is entering the production of a gas-fired warm air furnace.

One of the new gas-fired Rudy units is now on display in the sales room of the Standard Sheet Metal Works, 243 West Portage Street, Kalamazoo, Michigan.

The unit is made in sections, so that it can be made into any size to meet requirements. It is attractively colored, thermostatically controlled and in every way a scientifically correct heating unit.



"Heat Hustler"

From Real Roofers and Sheet Metal Workers, Inc., 84-86 Third Street, Gloversville, New York.

Can you tell us who manufactures the "Heat Hustler"?

Ans.—American Foundry and Furnace Company, Bloomington, Illinois.

Wet and Dry Bulb Thermometer

From A. Conzelman, Streator, Illinois.

Please tell me who makes a wet and dry thermometer for estimating the humidity of a home.

Ans.—E. Vernon Hill Company, 64 West Randolph Street, Chicago.

Repairs for "Simplex" Furnace

From D. J. Hourez, Buffalo, Illinois.

Kindly let me know if it is possible to get a radiator for a "Simplex" furnace, made by the Simplex Furnace Company of Racine, Wisconsin, now out of business. Is some other firm making this furnace now?

Ans.—Northwestern Stove Repair Company, 654 West Roosevelt

Road, Chicago, can furnish such a radiator. As far as we know, the "Simplex" furnace is not being manufactured at this time.

Address of National Association of Sheet Metal Contractors

From Acme Steel Company, 2840 Archer Avenue, Chicago.

Can you tell us where the National Association of Sheet Metal Contractors is located?

Ans.—336 Fourth Avenue, Pittsburgh, Pennsylvania.

Repairs for "Pacific Renown" Range
From Clark Hardware Company, Windom, Minnesota.

Please tell us who manufactures the "Pacific Renown" steel range No. 8-18 B, as we want repairs for it.

Ans.—The Independent Stove Company, Owosso, Michigan.

Glass Letters for Electric Signs

From Frank E. Wilk, P. O. Box 402, Syracuse, Nebraska.

Where can I get glass letters for electric signs?

Ans.—Chicago Miniature Lamp Works, 654 West Lake Street, and Opalite Sign Company, Inc., 201 East Ohio Street; both of Chicago.

Umbrella Covers

From Louis I. Drackert, Tipton, Missouri.

Kindly tell me who sells umbrella covers.

Ans.—Kreis & Hubbard, 320 South Franklin Street, and American Waterproof Products Company, 724 West Roosevelt Road; both of Chicago, Illinois.

"Shurflow" Oil Cups

From F. E. Grunwaldt, 164 Gales, Seattle, Washington.

Can you tell me who makes "Shurflow" wick feed oil cups?

Ans.—Hunter Pressed Steel Company, Lansdale, Pennsylvania.

THE GATZ WAY

(Concluded from Page 22)
have to advertise in some way."

After this discourse on advertising a sheet metal business, I put this question to Mr. Gatz: "Mr. Gatz, after having had thirty years of business experience in the sheet metal and warm air heating industry, if you were going to enter business again, what, if anything, would you do differently?"

Without a moment's hesitation he

replied: "I would try to be more careful about the work I contracted to do. I wouldn't try to grab all of it that came my way, even though I was very anxious to make a go of my business. I would endeavor to take work only that would net me a fair profit. I firmly believe that if I were to follow such a policy as that from the outset, many of the pitfalls in the ordinary pathway of business would be unknown to me. It is the young man's greed and impatience to "hog" all the business that makes him careless and negligent about endeavoring to learn whether the owner or contractor who has asked him to bid is financially responsible. There isn't much satisfaction in completing a job in workmanlike manner only to be "skinned" out of your money in the end. But that is exactly what happens in entirely too many cases."

Mr. Gatz does all kinds of sheet metal and roofing work. He also installs furnaces and oil burners, distributing the Ben Franklin oil burn-

CHAS. L. GATZ

FURNACES—ROOFING—SHEET METAL
804 Washington St.

FURNACES

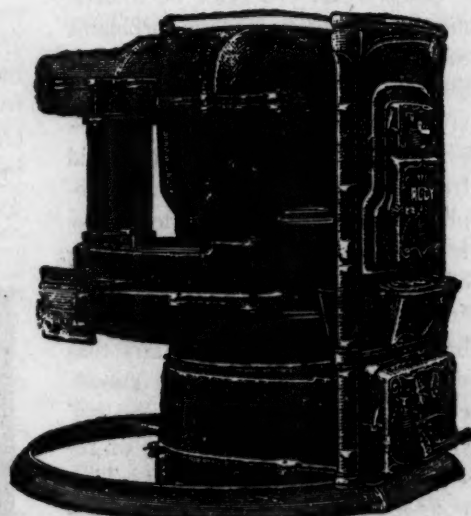
RUDY — FRONT RANK — ROBINSON

HOME BUILDERS

In planning the installin
of a new furnace we can
save you money. Fur
naces installed according
to standard code.

Workmanship guaranteed.

Estimates gladly given.
No obligation on your
part.



THE RUDY DIVING FLUE FURNACE

Furnace Ad Used by Mr. Gatz

er, Robinson, Ruddy, Gem and Quaker furnaces. He also sells toboggans, Armco and Toncan metal.



National Warm Air Heating Association, Columbus, Ohio, December 3 and 4, 1929. Allen Williams, 174 East Long Avenue, Columbus, Managing Director.

Kentucky Hardware and Implement Association Convention, Brown Hotel, Louisville, January 14, 15, 16 and 17, 1930. J. M. Stone, Secretary, 200 Republic Building, Louisville.

Texas Hardware and Implement Association Convention and Exhibition, Houston, January 21, 22 and 23, 1930.

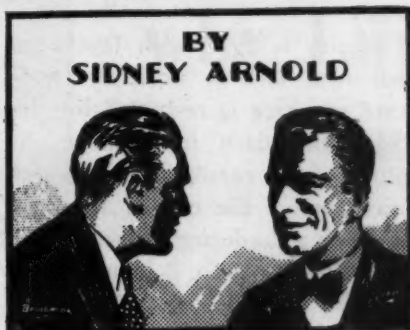
American Society of Heating & Ventilating Engineers and International Heating and Ventilating Exposition, Philadelphia, January 27 to 31, 1930. A. V. Hutchison, 29 West 39th Street, New York, Secretary.

Wisconsin Retail Hardware Association Convention and Exhibition, Auditorium, Milwaukee, February 4, 5, 6 and 7, 1930. B. Christianson, Secretary, Stevens Point. G. W. Kornely, Exhibit Manager, 1476 Green Bay Ave., Milwaukee.

RANDOM NOTES AND SKETCHES

Here is first hand evidence that Charlie Gatz, sheet metal contractor of Gary, Indiana, is a first-class fisherman. Many of the Indiana boys thought Charlie was spoofing them when he led them to believe that he could fish, but he certainly proved to their entire satisfaction that if he himself can't fish, he travels with a bunch of men who know what's what in game fishing.

Anybody who knows Vogel's Fish Place on the outskirts of Hammond, Indiana (Fred Vogel is Charlie's friend), and knows the excellent fish dinners served there also knows that



J. A. Brandt, instructor in sheet metal at Mooseheart, Illinois, thinks that I need the house for sale (referred to on page 112, October 19 issue), in Aurora, Illinois, worse

Mrs. F. E. Wilkening: "Golf, golf, golf. I really believe that if you spent a Sunday at home I should die."

Mr. Wilkening, Standard Metal Co., Indianapolis: "It's no use talking like that, my dear; you can't bribe me."

* * *

Both Sheet Metal Men

Smith: "Would you—er—advise me to—er—marry a beautiful girl or a sensible girl?"

Brown: "I'm afraid you'll never be able to marry either, old man."

Smith: "Why not?"

Brown: "Well, a beautiful girl could do better, and a sensible girl would know better."

* * *

I had a visit from Jack Stowell the other day. It seems that Jack had just returned from Cleveland or some other remote place. He stated that it was the first time he had been home for a quite a long time. I asked him how his new wife liked that. And he said: "Boy, I trained her right in the first place. When I come home to dinner she celebrates by killing the fattened calf." Gosh, how these benedicts like to boast about how they stay away from home any night they feel like it and no questions asked. Big, dominant he men they are. I'm laughing. I wonder when the training course will begin?

* * *

Wanted Regular Service

Wm. U. Metzger, sheet metal contractor at 144 North Edwards Street, Kalamazoo, Michigan, walked into a railroad office in Kalamazoo and asked for a ticket to New York.

"Do you wish to go by Buffalo?" asked the ticket agent.

"Certainly not!" Bill replied. "By train, if you please!"



Here They Are—Charles Gatz and His Cronies with the Big Catch. Mr. Gatz Is on the Extreme Right

Charlie Gatz and the rest of his cronies know fish, where to catch them and how to prepare them for the table.

The accompanying illustration is that of a mess of fish caught by Charlie Gatz and two of his friends at Art White's resort, Haywood, Wisconsin. The man at the right is Charlie Gatz; seated, Art White himself, and at the left, J. W. Stetssie.

than he does. Here's what he says: "Any location that will produce an increase like that noted should appeal to you. Why not move out and try it? I know of no one that is 'more in need of assistance.'" For details see page 112 of the October 19 issue AMERICAN ARTISAN.



Will Stock Market Drop Hit Steel?

Industry Scans Situation, with Eye on Public Buying Power—Some Lines Under Price Pressure—Current Buying and Production Tapering

INTEREST in the current market for iron and steel has been subordinate the past few days to appraisal of the effect which the debacle in security values may have upon the iron and steel industry.

Thus far there has been no repercussion, and since the industry lacks a broad, direct contact with the public, any reaction will be of a secondary nature, but there is no doubt steel will be sensitive to any general contraction in buying power for the time being.

Of the major consumers of steel, the automotive industry appears most exposed to the shock of stock market losses, with the burden heaviest on the luxury cars.

With auto production now at bedrock, the immediate effect would more likely be deferment of resumption rather than further curtailment.

Track material programs of the railroads are so largely replacement that exterior conditions must pursue a devious route before effecting maintenance.

A large proportion of 1930 material already has been ordered. Carbuilders have sufficient business on their books to carry them through the year, though action on pending inquiry may be retarded somewhat.

Farm implement manufacturers appear least likely to be affected. Building is entering what is normally an off season, but fabricators in the East have rarely been so well booked. Shipbuilders are embarked upon the best programs since the war.

Iron and steel producers naturally are uneasy over the psychological effect of the shakeout and the certain consequent shrinkage in buying power.

Pig Iron

Activity in the Pittsburgh pig iron market shows further decline. Large orders are lacking and small pur-

chases are less plentiful than recently.

Inquiry is light, with few large individual lots in prospect. Forward coverage is restricted by the ease with which iron can be obtained, and possibility of lower prices before the end of the year has been a deadening influence.

Small lots of No. 2 foundry iron still are \$18.50, base, valley, with bessemer and malleable \$19. Basic is nominal at \$18.50.

Northern pig iron quotations remain steady at \$20, base, Chicago furnace. Interest in the market is centered chiefly in spot fill-in tonnages.

October shipments are slightly ahead of the September rate. A local steel works interest has released 2,000 to 3,000 tons for merchant orders.

Small sales of pig iron are numerous at Birmingham, but the aggregate is not large. Shipments continue active, steadily reducing surplus stock.

Prices for the remainder of the year are \$14 to \$14.50, base, furnace, for local delivery, and \$1 less for competitive sections. The price base for first quarter will be \$15 to \$15.50.

Non-Ferrous Metals

Copper is the only non-ferrous metal which has held at unchanged price levels this week. Lead was quoted down sharply 15 points in the New York market and 20 points, East St. Louis basis, on Tuesday. Zinc declined 10 points, while tin prices continued weak under the influence of soft prices in London. Antimony prices displayed some strength on Monday, but again were easy in a dull market on Tuesday, it was reported.

Copper

Domestic demand has been very light this week and export sales have lagged. Some buying has been done every day for shipment abroad,

which had a steadying effect.

Producers apparently are firm in their price positions, despite nervousness caused by the stock market among both buyers and sellers. Domestic consumers have been covered on their November requirements for some time.

A little more buying is expected for next month, however. Earlier reports of price shading in the outside market disappeared entirely the fore part of this week and did not return.

Zinc

Some sellers of prime western metal lowered their prices to 6.60c, East St. Louis, late Monday. By Tuesday this lower quotation became general in the market and light trading was done at this figure during the week.

High grade zinc held unchanged at 8c delivered East, while brass special was quoted 6.70c, East St. Louis. Rumors of price shading previous to the decline have been heard.

Lead

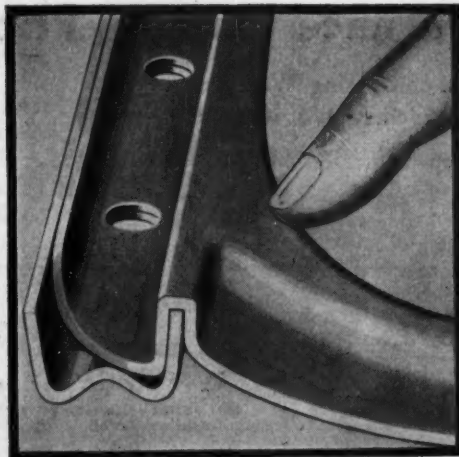
A drop in London prices preceded a decline of 15 points in the American Smelting & Refining Co.'s contract price on Tuesday which affected prices generally.

On the East St. Louis basis, lead immediately was quoted at 6.50c. Although some business had been done daily previous to the cut in prices, sales lagged after sellers had lowered their quotations. Weakness in London and fall in stock prices here were large factors in the decline.

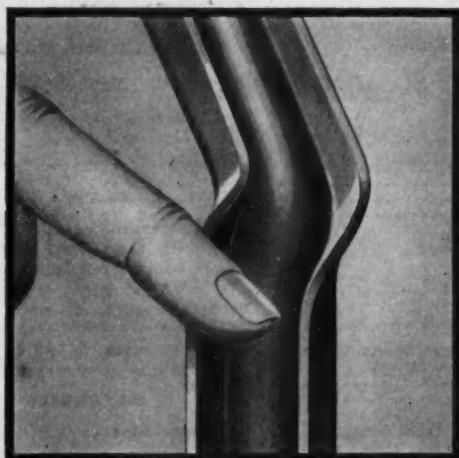
Tin

The market here has been very quiet this week, with both buyers and sellers watching the trend in London and the securities situation in this country.

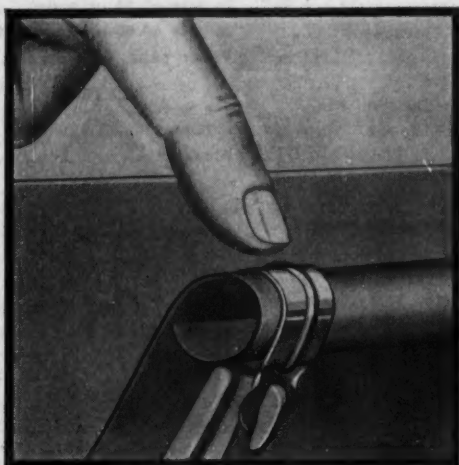
Fluctuations in tin prices of late have been wide and buyers have hesitated to enter the market for that reason preferring to wait until the situation cleared more.



Note how circle locks on shank. If the bolt should work loose through vibration, the weight of the gutter would still be on the shank.



Double-channeled construction at bend (shown in middle picture) gives 50% more strength than any other type of No. 12 shank, yet permits bending to meet roof pitch.



The rust-proofed coated bead clip rolls easily over the gutter bead and holds absolutely firm without solder.

The pictures tell why Lupton Hangers are best

WINTER BLIZZARD or a summer thunderstorm, Lupton Hangers carry the load without strain. Because they're built on scientific principles of engineering. Strength is put where it will do the most good.

Study the three diagrams at the left. They emphasize the superior features of Lupton Hangers. The positive lock of circle on shank. The double-channeled band. The rust-proofed coated bead clip, that can be put on without solder and saves time. It reduces the replacements made necessary by rust.

The Lupton Hanger can be obtained in any of the metals regularly used for roofing accessories. Its quality is worthy of the LUPTON name. It will stand any test you wish. Examine the Lupton Hanger at your jobber's. Or write us for a sample. David Lupton's Sons Co., Allegheny Ave. and Tulip St., Philadelphia.

LUPTON HANGERS



Chicago Warehouse Metal and Furnace Supply Prices

AMERICAN ARTISAN is the only publication containing Western Metal, Furnace Supply and Hardware prices corrected weekly

Note: These Prices Are Chicago Warehouse Prices of Metal, to Which Must Be Added Freight to Cities Outside of Chicago.

METALS

PIG IRON

Chicago Fdy.,	
No. 1	\$30 00
Southern Fdy. No. 1	21 51
Lake Superior Charcoal	27 04
Malleable	30 00

FIRST QUALITY BRIGHT CHARCOAL TIN FLATES

IC	20x28 112 sheets	\$22 50
IX	20x28	25 50
IXX	20x28 56 sheets	14 50
IXXX	20x28	15 50
IXXXX	20x28	17 00

TERNE FLATES

IC	20x28, 40-lb. 112 sheets	\$26 70
IX	20x28, 40-lb. 112 sheets	29 70
IC	20x28, 25-lb. 112 sheets	22 20
IX	20x28, 25-lb. 112 sheets	25 20
IC	20x28, 20-lb. 112 sheets	20 20
IV	20x28, 20-lb. 112 sheets	22 00

"ARMCO" INGOT IRON FLATES

No. 8 ga.—100 lbs.	\$4 15
8/16 in.—100 lbs.	4 05
1/2 in.—100 lbs.	3 85

COKE FLATES

Cokes, 50 lbs., base, 20x28	\$12 00
Cokes, 50 lbs., base, 20x28	12 20
Cokes, 100 lbs., base, 20x28	12 40
Cokes, 107 lbs., base, IC	
20x28	12 75
Cokes, 155 lbs., base, IX	
20x28	14 75

Cokes, 155 lbs., base, 2X,	
56 sheets	3 50
Cokes, 175 lbs., base 2X,	
56 sheets	9 35
Cokes, 195 lbs., base 4X,	
56 sheets	10 25

BLUE ANNEALED SHEETS

Base 10 ga.—per 100 lbs.	\$3 35
"Armco" 10 ga.—per 100 lbs.	4 15

ONE PASS COLD ROLLED BLACK

No. 12-20	per 100 lbs. \$3 85
No. 22	per 100 lbs. 4 00
No. 24	per 100 lbs. 4 05
No. 26	per 100 lbs. 4 15
No. 27	per 100 lbs. 4 20
No. 28	per 100 lbs. 4 30
No. 29	per 100 lbs. 4 45
No. 30	per 100 lbs. 4 55

"ARMCO" GALVANIZED

"Armco" 24	per 100 lbs. \$6 15
------------	---------------------

GALVANIZED

No. 16	per 100 lbs. \$4 40
No. 18	per 100 lbs. 4 55
No. 20	per 100 lbs. 4 70
No. 22	per 100 lbs. 4 75
No. 24	per 100 lbs. 4 90
No. 26	per 100 lbs. 5 15
No. 27	per 100 lbs. 5 25
No. 28	per 100 lbs. 5 40
No. 30	per 100 lbs. 5 50

BAR SOLDER

Warranted 50-50	per 100 lbs. \$31 00
45-52	per 100 lbs. 30 00
45-55	per 100 lbs. 27 50
Plumbers'	per 100 lbs. 26 00

ZINC

In Slabs	\$ 7 35
----------	---------

SHEET ZINC

Cask Lots (600 lbs.)	\$12 00
Sheet Lots	14 00

BRASS

Sheets, Chicago base	24 1/2 c
Mill base	23 1/2 c
Tubing, brazed, Chicago base	31 1/2 c
Mill base	30 1/2 c
Tubing, seamless, Chicago base	29 1/2 c
Mill base	28 1/2 c
Wire, Chicago base	24 1/2 c
Mill base	23 1/2 c
Rods, Chicago base	22 1/2 c
Mill base	21 1/2 c

COPPER

Sheets, Chicago base	27 1/2 c
Mill base	26 1/2 c
Tubing, seamless, Chicago base	30 1/2 c
Mill base	29 1/2 c
Wire, plain rd., 3 B. & S. Go.	25 1/2 c
and heavier	

LEAD

American Pig	\$7 00
Bar	8 00

TIN

Bar Tin	per 100 lbs. \$47 00
Pig Tin	per 100 lbs. 46 00

HARDWARE, SHEET METAL SUPPLIES, WARM AIR FURNACE FITTINGS AND ACCESSORIES.

ASBESTOS

Paper up to 1/16	6c per lb.
Roll board	7 1/2 c per lb.
Mill board 8/32 to 1/4	7 1/2 c per lb.
Corrugated Paper (350 sq. ft. to roll)	\$6 00 per roll

BRUSHES

Furnace Pipe Cleaning	
Bristle with handle each	\$0 75
Flue Cleaning	
Steel only, each	1 25

CEMENT, FURNACE

American Seal, 5-lb. cans, net	\$ 45
American Seal, 10-lb. cans, net	85
American Seal, 25-lb. cans, net	2 25
Pecora	per 100 lbs. 7 50

CHIMNEY TOPS

Adams' Revolving	
Wt. Doz.	Price Doz.
4 in.	21 lbs. \$11 00
6 in.	24 lbs. 11 50
7 in.	28 lbs. 12 50
8 in.	32 lbs. 13 50
9 in.	36 lbs. 14 50
10 in.	40 lbs. 15 50
12 in.	48 lbs. 18 00
14 in.	56 lbs. 20 00
16 in.	64 lbs. 22 00

CLINKER TONGS

Each	\$1 50
------	--------

CLIPS

Damper	
No-Rivet Steel, with tail	
pieces, per gross	\$9 50
Rivet Steel, with tail	
pieces, per gross	7 50
Tail pieces, per gross	3 40

COPPER—Soldering

Pointed Roofing	
3 lb. and heavier	per lb. 40c
2 1/2 lb.	per lb. 45c
2 lb.	per lb. 48c
1 1/2 lb.	per lb. 55c
1 lb.	per lb. 60c

CORNICE BRACKETS

Chicago Steel Bending	
No. 1 to 6B	Net

CUT-OFFS

Gal., plain, round or cor. rd.	
26 gauge	30c
28 gauge	35c

DAMPERS

Yankee Hot Air	
7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	3 00
12 inch, doz.	3 50
14 inch, doz.	4 00

ADAMS No. 1 CHECK

Check and Collar Complete	
8 inch, each	3 00
9 inch, each	3 25
End Check Only	
8 inch, each	1 60
9 inch, each	1 85
Collar Only	
8 inch, each	50
9 inch, each	55

No. 2 CHECK

8 inch, each	1 00
9 inch, each	1 00
10% Disc. on Adams No. 1	
and No. 2 Check	
Diamond Smoke Pipe	
7 inch, doz.	\$2 00
8 inch, doz.	2 20
9 inch, doz.	4 80
10 inch, doz.	6 00

Adams' Sheet Metal

7 inch, doz.	\$1 60
8 inch, doz.	2 20
9 inch, doz.	2 60
10 inch, doz.	2 80
12 inch, doz.	3 50
14 inch, doz.	5 00

LEAVES TROUGH

Galv. Crimped, crated	75-10%
Zinc, "Barnes"	60%

ELBOWS

Conductor Pipe	
Galv. plain or corrugated, round flat Crimp,	
26 Gauge	60%
28 Gauge	45%
24 Gauge	15%

Galv. Terne Steel

Plain Rd. and Rd. Corr.:	
26 Ga.	60%
28 Ga.	45%
24 Ga.	15%

Square Corrugated

No. 28 Gauge	50%
26 Gauge	35%

Fortice Elbows

Standard Gauge Conductor Pipe, plain or corrugated,	
Not nested	70 & 5%
Nested Solid	70 & 5%

Sq. Corr., A. & B. & Octagon

26 Ga.	50%
28 Ga.	35%

Fortice

1", 1 1/4", 1 1/2"	45%
--------------------	-----

Copper

16 oz., all designs	40%
---------------------	-----

Zinc

All styles	60%
------------	-----

ELBOWS—Stove Pipe

1-piece Corrugated, Uniform Blue "Milcor" No. 28 Gauge.	Doz.
5-inch	\$1 15
6-inch	1 25
7-inch	1 75

Special Corrugated

6-inch	\$1 00
7-inch	1 50

Adjustable—Uniform Blue

"Milcor" No. 28 Gauge, Uniform Blue.	
5-inch	\$1 60
6-inch	1 75
7-inch	2 10

WOOD FACES—60% off list.

FENCE

726-6-12 1/4 (100 rods)	\$28 60
1945-6-14 1/4 (100 rods)	43 60

FILES AND RASPS

Heller's (American)	50-10%
American	50-10%
Arcaide	50%
Black Diamond	50%
Bagle	50%
Great Western	50%
Kearney & Foot	50%
McClellan	50%
Nicholson	50%
Simonds	60%

FIRE POTS

Geo. W. Diener Mfg. Co.	Ma.
No. 02 Gasoline Torch, 1 qt.	\$ 5 15
No. 9250, Kerosene, or Gasoline Torch, 1 qt.	6 50
No. 10 Tinner's Furn. Square tank, 1 gal.	11 30
No. 15 Tinner's Furn. Round tank, 1 gal.	10 70
No. 21 Gas Soldering Furnace	3 00
No. 110 Automatic Gas Soldering Furnace	10 50

GALVANIZED WARE

Pails (Galv. after made), 10-qt.	\$3 00
Tubs (Galv. after made), No. 1	5 70
No. 2	6 50

GLASS

Single Strength, A, all brackets	35%
Single Strength, B, all brackets	37%
Double Strength, A, all brackets	35%
Double Strength, B, all brackets	37%

HANGERS

Conductor Pipe	
Milcor Perfection Wire	25%
Milcor Triplex Wire	10%
Leaves Trough	
Milcor Steel (galv. after forming) from List	50%
Milcor Selflock E. T. Wire, List	10%

HOOKS

Conductor	
"Direct Drive" Wrought Iron for wood or brick	15%

HUMIDIFIER

"Front-Rank," Automatic	
In single lots	50%
In lots of 10 or more	50-5%
In lots of 25 or more	50-10%
Vapor pans, etc., each	50%

LIFTERS

Stove Cover	
Coppered	per gro. \$8 00
Alaska	per gro. 4 75

MALLETS

Tinners	
Hickory	per doz. \$2 30

MITRES

Galvanized steel mitres	
28 Ga.	70
26 Ga.	60-30

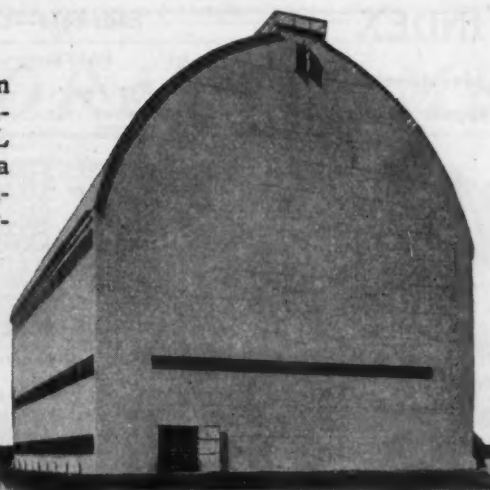
NAILS

Cut Steel, base	\$4 00
Wire	
Common Wire, L. C. L.	3 20
Cement Coated	3 20

(Continued on page 32)

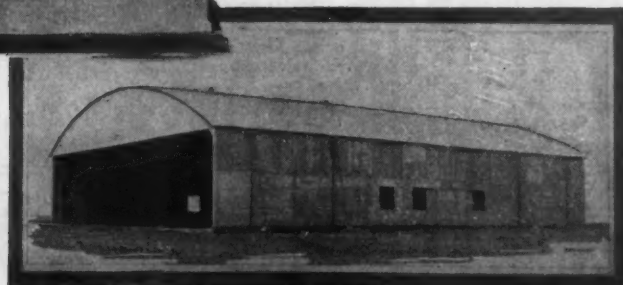
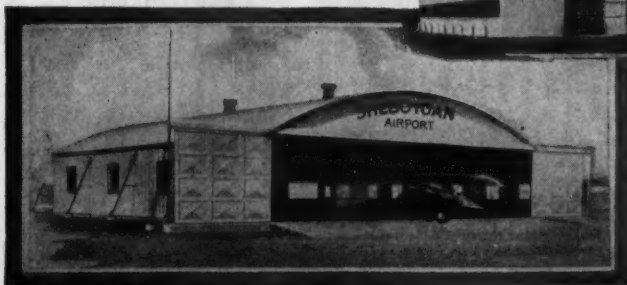
Keeping pace with the modern demand, INLAND GALVANIZED *CopperAlloy* STEEL SHEETS are affording a double protection to the complicated equipment of this newest industry.

Airport, Sheboygan, Wis., covered with INLAND *CopperAlloy* GALVANIZED STEEL SHEETS.
(Below)



Dirigible Hangar, Grosse Ile, Mich., covered with INLAND *CopperAlloy* GALVANIZED STEEL SHEETS. (Left)

Hangar, Wichita Falls, Texas, covered with INLAND *CopperAlloy* GALVANIZED STEEL SHEETS. (Below)



INLAND *CopperAlloy* STEEL SHEETS

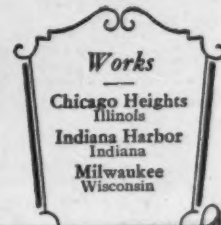
Strength and safety, combined with the enduring quality of INLAND *CopperAlloy* STEEL SHEETS, have nominated them for important service in this lusty young giant of American industry. Among the scores of buildings in field of aviation which are covered with Inland sheets are the two airports and the dirigible hangar shown above, situated in three different states. They are finding the protection they require in these splendid sheets—and the years will show the further advantage of a rust-resisting, permanent covering.

Other characteristics and many other uses are described in our new booklet. Write for your copy.

Contributing Member Sheet Steel Trade Extension Committee.



INLAND STEEL COMPANY
38 South Dearborn Street
Chicago



SHEETS BARS PLATES SHAPES RAILS TRACK ACCESSORIES RIVETS BILLETS

Mention AMERICAN ARTISAN in your reply—Thank you!

ADVERTISERS' INDEX

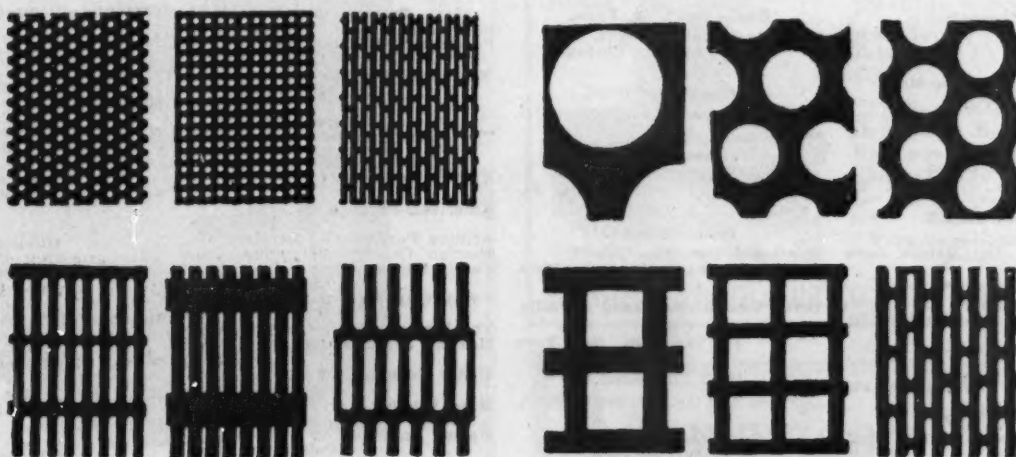
The dash (—) indicates that the advertisement runs on a regular schedule but does not appear in this issue.

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		Wise Furnace Co.	—

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PASTE		RIDGE ROLL	
Asbestos Dry Paste:		Galv., Plain Ridge Roll, b'd'd	75-15-5%
200-lb. barrel	\$14 00	Galv., Plain Ridge Roll crated	75-15'
100-lb. barrel	7 50		
50-lb. pail	4 25		
10-lb. bag	1 00		
5-lb. bag	55		
1 1/2-lb. cartons	25		
POKERS, FURNACE		SCREWS	
Each	\$0 75	Sheet Metal	
		7, 1/2x1/4, per gross	\$0 53
		No. 10, 1/2x3/16, per gross	88
		No. 14, 1/2x1/4, per gross	88
POKERS, STOVE		SHEARS, TINNERS' & MACHINISTS'	
Nickel Plated, coil handles, per doz.	1 10	Viking	\$12 00
W'r't Steel, str't or bent, per doz.	\$0 75	Lennox Throatless	
		No. 18	35%
		Shear blades	10%
		(f. o. b. Marshalltown, Iowa)	
PIPE		SHIELDS, ADJUSTABLE RADIATOR	
Conductor		No. 1 "Gem" 11" to 17"	30%
Cor. Rd., Plain Rd., or Sq.		No. 2 "Gem" 14" to 24"	30%
Galvanized		No. 3 "Gem" 35" to 45"	30%
Crated and nested (all gauges)	75-7 1/2%		
Crated and not nested (all gauges)	75-2 1/2%		
Furnace Pipe		SHOES	
Double Wall Pipe and Fittings	50 & 10%	Galv. 28 Gauge, Plain or corrugated round flat crimp	60%
Single Wall Pipe, Round		26 gauge round flat crimp	45%
Galvanized Pipe	50 & 10%	24 gauge round flat crimp	15%
Galvanized and Tin Fittings	50 & 10%		
Lead		SNIPS, TINNERS	
Per 100 lbs.	\$12 50	Clover Leaf	40 & 10%
		National	40 & 10%
		Star	50%
		Milcor	Net
Stove Pipe		SQUARES	
"Milcor" "Titelock" Uniform Blue Stove		Steel and Iron	Net
23 gauge, 5 inch U. C.	11 00	(Add for bluing \$3 per doz. net)	
23 gauge, 6 inch U. C.	12 00	Mitre	Net
23 gauge, 7 inch U. C.	14 00	Try	Net
30 gauge, 5 inch U. C.	10 35	Try and Bevel	Net
30 gauge, 6 inch U. C.	11 00	Try and Mitre	Net
30 gauge, 7 inch U. C.	13 00	Fox's	per doz. \$6 00
		Winterbottom's	10%
T-Joint Made up			
6-inch, 28 ga. per doz.	\$ 40		
All Zinc			
No. 11, all styles	60%		
PULLEYS		STOPPERS, FLUE	
Furnace Tackle	per doz. \$0 35	Common	per doz. \$1 10
Furnace Screw (enameled)	per doz. 75	Gem, No. 1	per doz. 1 10
		Gem, flat, No. 1	per doz. 1 40
PUTTY			
Commercial Putty, 100-lb. Kits	\$3 15		
QUADRANTS			
Malleable Iron Damper	10%		
REDUCERS—Oval Stove Pipe			
Per Doz.			
7-6, 28-gauge, 1 doz. in carton	\$3 00		
REGISTERS AND BORDERS			
Baseboard, Floor and Wall			
Cast Iron	20%		
Steel and Semi-Steel	33 1/2%		
Baseboard, 1 piece	33 1/2-30%		
Baseboard, 2 piece	33 1/2%		
Wall	33 1/2%		
Adjustable Ceiling Ventilators	33 1/2%		
Register Faces—Cast and Steel			
Japanned, Bronzed and Plated, 4x6 to 14x14	33 1/2%		
Large Register Faces—Cast, 14x14 to 35x43	50%		
Large Register Faces—Steel, 14x14 to 35x43	60%		
Ventilating Register			
Per gross	\$ 00		
Small, per pair	30		
Large, per pair	50		
		WIRE	
		Black annealed wire, No. 9, per 100 lbs.	\$3 30
		Galvanized barb wire, per 100 lbs.	\$ 70
		Cattle Wire—galvanized catch weight spool, per 100 lbs.	\$ 80
		Galvanized Plain Wire, No. 9, per 100 lbs.	\$ 75

PERFORATED METALS



All Sizes and Shapes of Holes in all Kinds and Thicknesses of Metal.
 Punched Metal Grilles, Register Faces, Ventilators, etc.
 Guard Material for Machines and Belts. We supply a complete line of Accessories
 Screens for Grain, Minerals or anything to be screened.
 Perforated Tin and Brass always in stock

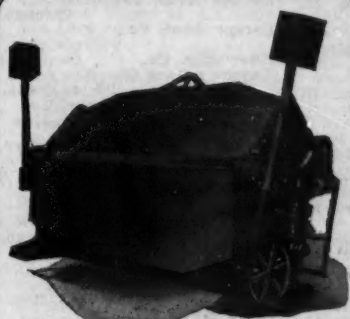
THE HARRINGTON & KING PERFORATING CO.

5649 FILLMORE STREET, CHICAGO, ILLINOIS, U. S. A.

New York Office: 114 Liberty Street

CHICAGO STEEL BENDING BRAKES AND FORMING PRESSES

The perfected result of over 30 years experience in the manufacture of sheet metal bending machines. Over 25,000 machines in use.



POWER BRAKE

Hand Brakes
 Cornice Brakes
 Power Brakes
 Box and Pan Brakes
 Forming Presses
 Special Brakes and Presses



FORMING PRESS

The most complete and up-to-date line of sheet and plate bending and forming machines in the world. Lengths, 3 to 16 feet, with capacity to bend from the lightest metals up to $\frac{3}{4}$ in. plate, cold.

DREIS & KRUMP MANUFACTURING CO.

7404 Loomis Street • Chicago

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Air Cleaners.
Meyer & Bro. Co., F. Peoria, Ill.
Watt Mfg. Co., Sterling, Ill.

Air Conditioning Machines.
Heating Systems Corp., Joliet, Ill.
Watt Mfg. Co., Sterling, Ill.

Asbestos Paper.
Sail-Mountain Co., Chicago, Ill.

Asbestos Liquid.
B. & F. Mfg. Co., Des Moines, Iowa

Benchers—Steel.
Maplewood Machinery Co., Chicago, Ill.

Blast Gates
Berger Bros. Co., Philadelphia, Pa.

Blowers—Furnace.
Lakeside Co., Hermansville, Mich.

Bolts—Steel.
The Kirk-Latty Co., Cleveland, Ohio
Lamson & Sessions Co., Cleveland, Ohio
Ryerson & Son, Inc., Jos. T., Chgo., N. Y., St. L., Det., Cleve.

Brakes—Bending.
Dreis & Krump Mfg. Co., Chicago, Ill.
Ryerson & Son, Inc., Jos. T., Chgo., N. Y., St. L., Det., Cleve.

Brakes—Cornices.
Dreis & Krump Mfg. Co., Chicago, Ill.

Brass and Copper.
American Brass Co., Waterbury, Conn.

Cans—Garbage.
Diener Mfg. Co., G. W., Chicago, Ill.
Osborn Co., The J. M. & L. A., Cleveland, Ohio

Castings—Malleable.
Fanner Mfg. Co., Cleveland, Ohio

Ceilings—Metal.
Eller Manufacturing Co., Canton, Ohio
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Chaplets.
Fanner Mfg. Co., Cleveland, Ohio

Chimney Tops.
Standard Ventilator Co., Lewisburg, Pa.

Cleaners—Vacuum.
Brillion Furnace Co., Brillion, Wis.
National Super Service Co., Toledo, Ohio
Williamson Heater Co., Cincinnati, Ohio

Copper.
American Brass Co., Waterbury, Conn.
Rockford Sheet Steel Co., Rockford, Ill.

Cornices.
Eller Manufacturing Co., Canton, Ohio
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Out-offs—Rain Water.
Eller Mfg. Co., Canton, Ohio
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Dampers—Quadrants—Accessories.
Eller Mfg. Co., Canton, Ohio
Howes Co., S. M., Boston, Mass.
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City
Parker-Kalon Corp., New York, N. Y.

Damper Regulators.
H. M. Sheer Co., Quincy, Ill.

Dies—Punch & Press.
La Salle Machine Works, Chicago, Ill.

Diffuser—Air Duct.
Aeolus-Dickinson Co., Chicago, Ill.

Doors—Metal.
Lupton's Sons Co., David, Philadelphia, Pa.

Drills—Electric.
Ryerson & Son, Inc., Jos. T., Chgo., N. Y., St. L., Det., Cleve.

Drive Screws—Hardened Metallic.
Parker-Kalon Corp., 200 Varick St., New York

Dust Eliminator.
Dustless Ash Co., Muskegon, Mich.

Eaves Trough.
Barnes Metal Products Co., Chicago, Ill.
Berger Bros. Co., Philadelphia, Pa.
Eller Mfg. Co., Canton, Ohio
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City
New Jersey Zinc Sales Co., The, New York, N. Y.
Rockford Sheet Steel Co., Rockford, Ill.

Elbows and Shoes—Conductor.
Barnes Metal Products Co., Chicago, Ill.
Dieckmann Co., Ferdinand, Ohio
Eller Mfg. Co., Canton, Ohio
Lupton's Sons Co., David, Philadelphia, Pa.
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City
Rockford Sheet Steel Co., Rockford, Ill.

Fittings—Conductor.
Barnes Metal Products Co., Chicago, Ill.
Eller Mfg. Co., Canton, Ohio
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Flue Thimbles.
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Furnace Cement—Asbestos.
Connors Paint Mfg. Co., Wm., Troy, N. Y.
Eller Mfg. Co., Canton, Ohio
Milwaukee Corrugating Co., Mil., Ch'go, La Crosse, Kan. City

Furnace Cement—Liquid.
Technical Products Co., Pittsburgh, Pa.

Furnace Cleaners—Hand.
J. L. Skuttle Mfg. Co., Dowagiac, Mich.

Furnace Controls.
The Mercold Corp., Chicago, Ill.

Furnace Cleaners—Suction.
Brillion Furnace Co., Brillion, Wis.
National Super Service Co., Toledo, Ohio
Williamson Heater Co., Cincinnati, Ohio

Furnace Fans.
A-C Mfg. Co., Pontiac, Ill.
Brundage Co., The, Kalamazoo, Mich.
Heating Systems Corp., Joliet, Ill.

Lakeside Co., Hermansville, Mich.
Massillon, Ohio
Watt Mfg. Co., Sterling, Ill.
The, Cleveland, Ohio
Williamson Heater Co., Cincinnati, Ohio

Furnace Regulators.
H. M. Sheer Co., Quincy, Ill.

Furnace Rings.
Eller Mfg. Co., Canton, Ohio
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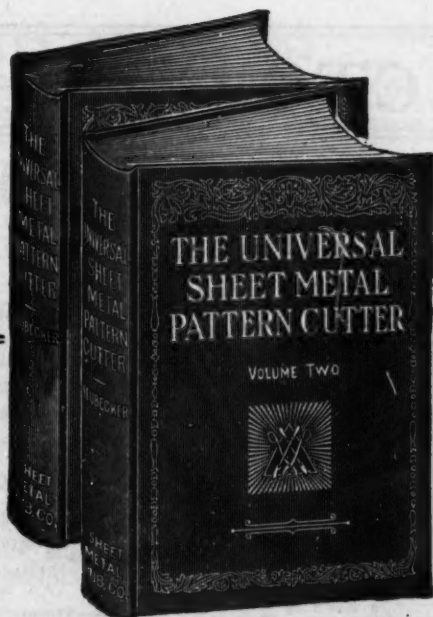
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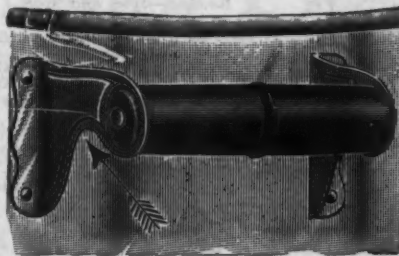
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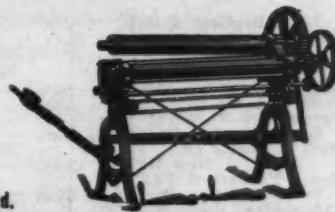
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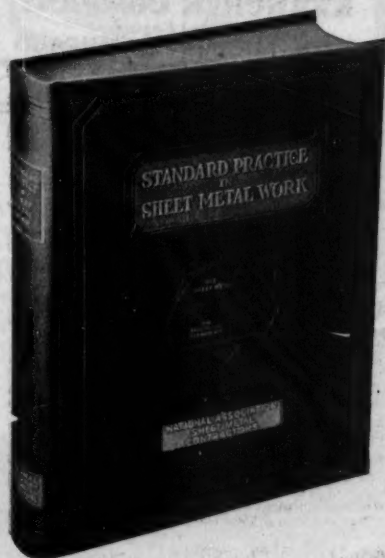
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LOOK AT THESE PRICES

New Mighty Midget Unishears

\$56.00

4 Foot Chicago Steel Brake - \$80.00
30 Inch Bar Folder - - - \$35.00
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Interstate Machinery Co.

601 W. Monroe St. Chicago



ELIMINATE SMOKE, GAS,

oil fumes, etc. Paint your furnace joints with **INSALUTE CEMENT** (liquid porcelain). Order an 8-lb. can at \$2.00 direct or thru your jobber. Used on all kinds of domestic furnaces.

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The Sensational New Burner, Built on Scientific Principles

"NOT A CLOG IN A CARLOAD"
\$10 to \$40 to Heat 4 to 40 Rooms
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with excellent, up-to-date engineering and sales experience, highly familiar with best trade in New York and Pennsylvania, will consider other territory. Wish to connect with prominent manufacturer. Available on short notice. Address Karl Kokborg, 738 Glenwood Ave., Buffalo, N. Y. C509

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Two used squaring shears 6 ft. to 10 ft. long for 3/16" or 1/4" metal. Give complete information—make, time in use, state of repair, price, etc. Address O509 American Artisan, 139 N. Clark Street, Chicago, Ill.

SPECIAL NOTICE

SALES MANAGER WANTED

We have a permanent place for an experienced Furnace Sales Manager in our organization. He should have had both traveling sales and office sales experience and must be under forty years of age.

A traveling salesman who can show an exceptional sales record and who has the educational background to enable him to handle sales correspondence would be considered if he could show executive ability as well. Stock ownership would be possible after complete satisfaction had been rendered. Address The Lennox Furnace Company, Marshalltown, Iowa. F510

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Making money is mainly a question of using your head. The Modern Method is to Concentrate on a Systematic Course of Training, like ours, to enlarge Vision, Plan Reading, Designing, Working Ability, etc. Aeroplane-minded men know it is far cheaper and easier to learn from an organized Course, like the St. Louis Technical Institute's, than to ride a snail for 10 to 30 years in the hope of getting somewhere—but always getting disappointed.

DOES \$75 TO \$100 PER WEEK INTEREST YOU?

Of course it does, and it would amaze you to know there are more such opportunities available today than ever before. To men of Technical Training—they are open. Every now and then a Student writes us the glad news that he has connected up with such a position, and it makes our heart happy, too. Technical Training allows Students to maintain steady work, which pays for their Course several times over every year—all the rest is clear profit. Yes, there is a real demand for Technical Trained Men.

WHY NOT ENGAGE OUR SERVICES TO HELP YOU ADVANCE?

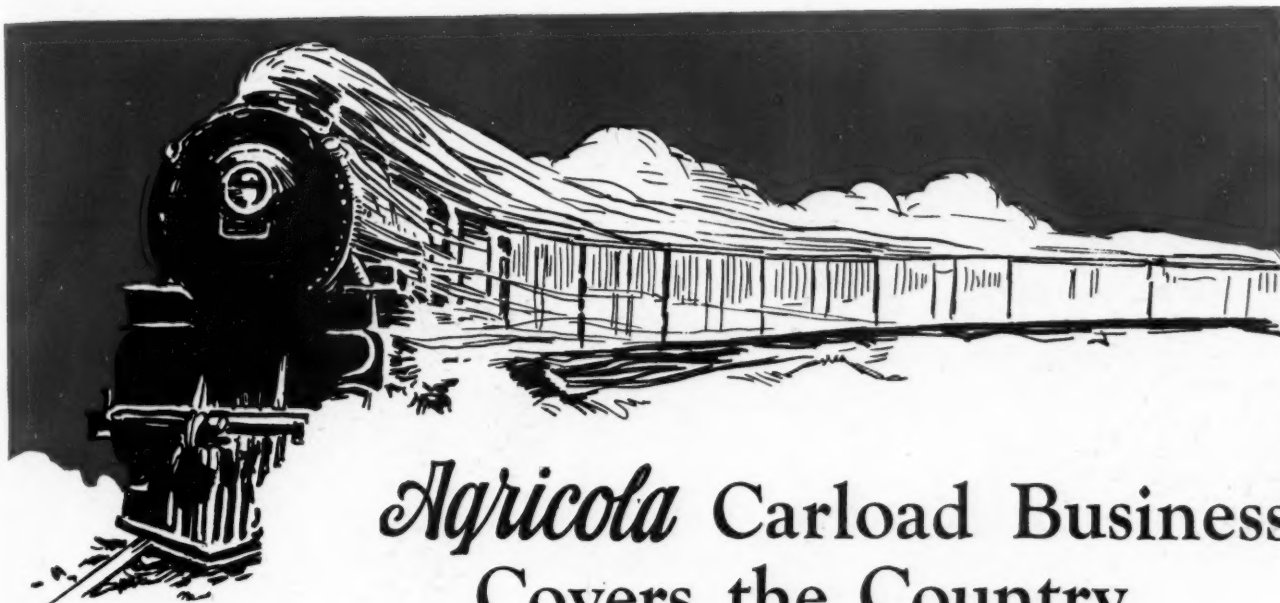
For 19 years we have satisfied in a most gratifying way, a considerable army of men who were the hardest to please—most discriminating, doubting kind of tradesmen. We have proven to them absolutely that we could help them Win a larger measure of Success in life than they could ever have accomplished alone. Surely, then, we can also help you—who are reading this.

Yes, Sir! we train you in your own Home, Personal, Clear, Direct.

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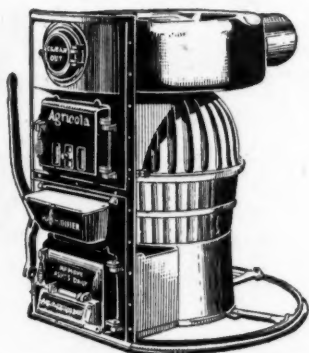
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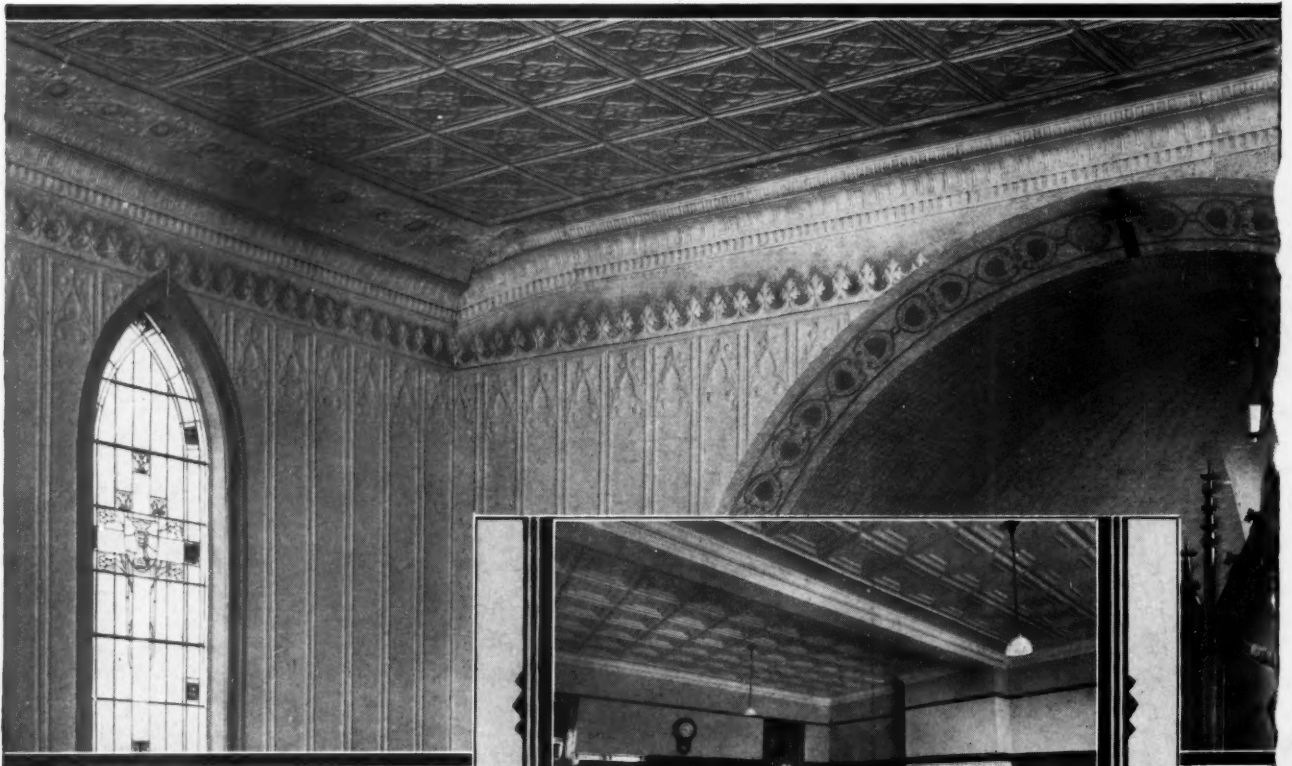
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